# amateur radio

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AUGUST
1966

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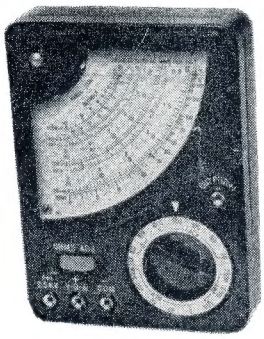

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# "AMATEUR RADIO"

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## FEDERAL COMMENT

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One important characteristic of an Australian is his capacity for survival.

Self help is the most reliable kind of help. With it a natural flair for improvising, making use of available materials, can turn a failure into a victory.

There is a tendency for today's Australians to follow a world fashion which dictates—"Don't fix it. Get a new one." This may be all right while the supply of "new ones" continues, but for a long while there will be many times and places in Australia with no guaranteed supply.

Knowing how to fix it with laboratory equipment available is one thing. Doing it in the field on the ground under a tent, while it is raining maybe, is a totally different task.

Field days seem a long way off at this time of year, but need they be? Should they be?

A field day as well as being an interesting excursion has a serious background. It develops that essential "know-how" which can deal with emergencies under "far-from-laboratory" conditions.

Emergencies do not, as a rule, choose to occur under perfect weather conditions. Preparation months ahead is time well spent even for summer field days.

There is no better time to ask yourself the following question than before a field day: "If the rig fails while I am 'portable' have I any hope of fixing it, or will I just pack up the little black box and go home?"

Are you an independent or a dependant? How well are you equipped in the self-help department?

L. A. SEEDSMAN.

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# A Transistorised Amateur Band Receiver

**PART ONE**

HAROLD L. HEPBURN,* VK3AFQ

## PROLOGUE

A few months ago the Moorabbin and District Radio Club felt that a constructional project should be undertaken as a means of providing additional interest for its members.

At a meeting held to discuss the proposition it was obvious that keen interest existed in such a project and that it should involve the use of transistors. Few club members had done any constructional work with semiconductors so that a "transistorised" project would also have some additional educational benefits. Ideas as to what should be made were many and varied, just about every bit of equipment known to Hamdom being suggested at one stage or another.

After more discussion and consideration at committee level it was decided to build a communications receiver. It was realised that this would be a rather ambitious entry into the world of semiconductors but in spite of the obvious problems involved it was felt that a transistorised receiver had several advantages.

(1) A receiver has a much wider appeal than other, less complex, equipment such as signal tracers, oscillators, etc.

(2) Club members have always been keen on 80 metre transmitter hunts but of recent years there has often been more spectators than hunters due to the lack of equipment suitable for mobile or portable use.

(3) A single band h.f. receiver would be a good basic unit from which, and by the addition of, say, converters, other h.f. and v.h.f. bands could be explored.

(4) Since a very large proportion of club members are also active in the Victorian W.I.C.E.N. organisation it was felt that a transistorised receiver would meet a long unfulfilled need for a very low drain unit. Since the major use for h.f. in Victoria has been "watch-keeping" a low drain receiver is obligatory.

(5) Since at least one club member had already built a prototype transistorised single sideband generator for the 3.5 Mc. band, the possibility, at a later stage, of combining the two into a complete portable transistorised rig was most attractive.

## RECEIVER SPECIFICATIONS

The general specification of the receiver as it finally emerged is as follows:—

1. Capable of operation on any d.c. supply between 14 volts and 9 volts, thus allowing either mobile or portable use.
2. Circuitry is floating with respect to d.c., thus allowing use in either positive or negative earthed vehicles.
3. Low current drain—30-35 mA. quiescent, rising to over 60 mA. at maximum audio.
4. 250/300 mW. output.
5. Sensitive and capable of excellent performance on a.m., s.s.b. or c.w.
6. Provision made for the later addition of a mechanical or ceramic filter if required.
7. Tunes either 3.5-4.1 mcs. or 2.5-4.1 mcs.
8. Capable of being used as a tuneable i.f. in conjunction with either h.f. or v.h.f. converters.
9. Contained in an all-metal cabinet 4 in. high by 10½ in. wide by 7½ in. deep. Only about half the internal volume of this case is used by the receiver so that there will be ample room at a later date to add converters, sideband generator or what have you.
10. Calibrated dial and a double speed 6/1 or 36/1 reduction drive which has proved to be more than adequate for s.s.b. on the h.f. bands.
11. Uses 12 locally available transistors and three diodes.
12. Voltage regulation on all but the audio stages.
13. Sectionalised for simple stage by stage construction.
14. Uses parts freely obtainable in VK.

Since over thirty members were each interested in building a receiver the problems associated with large-scale production (such as parts procurement and reproducibility) were added to those encountered in the "one off" type of design more usual in Amateur circles. It meant that it should be possible for everyone to build to the same design in the same way and obtain the same result. Junk box parts (unless they fitted the component specification exactly) were not used and modifications to suit the bits and pieces that participants might have were ruled out. Pretty obviously if thirty people each wanted a different "mod" the organisers would have thirty sets of problems to iron out, not just one set!

To spread the cost of the finished unit it was designed and constructed in five sections. Each section was paid for, made and tested before the next stage was started.

The sections, in the order of construction, were:

1. Audio amplifier.
2. B.f.o. and cabinet.
3. I.f. strip, detectors and a.g.c. circuitry.
4. Local oscillator.
5. R.f. and mixer stages.

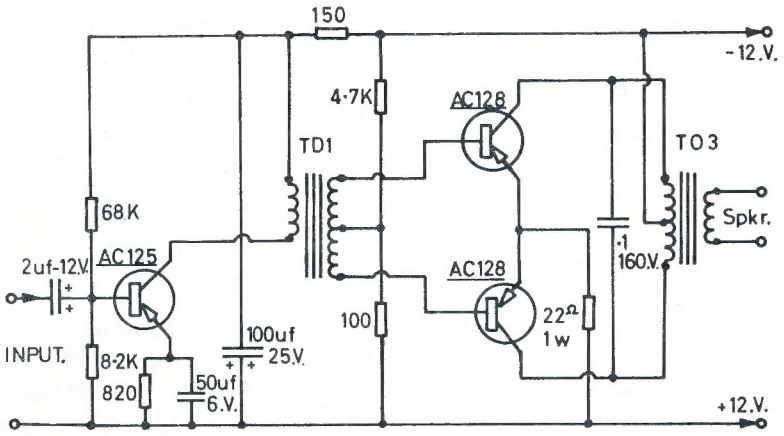



FIG. 1.

All resistors are ½ watt except where otherwise marked. The driver and output transformers specified are made by A. & R., while the condenser across the primary of the output transformer is a polyester type. The quiescent current of the unit is 3 mA. at 12 volts.

The cabinet was included in Stage 2 since the cost of the b.f.o. on its own was much lower than the other four sections.

The Moorabbin Club premises are not set up as a workshop capable of handling a large number of people so that a detailed set of instructions was prepared for each section and the actual constructional work was done by each participant in his own shack. This also avoided the problem of picking a series of constructional nights suitable to all participants.

At the start of the project three people—Neil Trainor (VK3ZRT), Bob Jordan (VK3AKJ) and the writer—each built a prototype and these early models used to develop the final cir-

* 4 Elizabeth St., East Brighton, Vic.

cuitry and layout and to iron out as many of the inevitable "bugs" as possible. The final design proved to be highly reproducible, well tamed and very effective.

Obviously no claims can be made for either technical originality or technical superiority, but at least it can be said that the finished receiver can be built by any VK enthusiast without solving the problem of getting those special parts called for by overseas designs.

It is perhaps unnecessary to add that any group or individual requiring further information is welcome to seek it through the Moorabbin Club or direct from the writer.

Cost—oh yes—about $15.50 per stage if you exclude the filter.

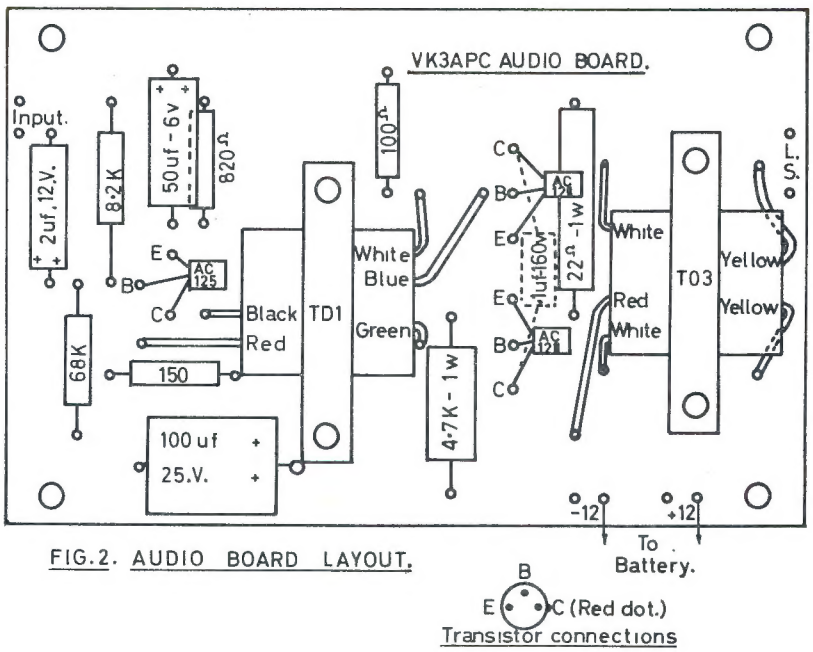



FIG. 2. AUDIO BOARD LAYOUT.

## DESCRIPTION OF CIRCUIT

Normally an article such as this would have one large circuit diagram appended to it. This approach will not be followed in this series of articles for the very good reason that the individual sections have already been diagrammed for the instructional material issued and the writer was too darn lazy to draw it all again!

## THE AUDIO SECTION

The circuit for the audio end of the receiver is shown in Fig. 1. Audio input from the detectors is amplified by the AC125 stage which in turn is transformer coupled to the bases of the pair of AC128's class B output transistors. Output is about 250 mW. into either a 3.5 or 15 ohm speaker. The 0.1 $\mu$F. 160 volt polyester condenser across the primary of the output transformer is included to reduce the high frequency response of the unit.

It is realised that two AC128's in class B fed from a 12 volt rail are capable of an output in excess of that obtained, but here—as in other parts of the circuit — preference has been given to reliability rather than trying to squeeze the last drop out of the components.

The audio section was built on a specially prepared circuit board 4 in. x 2½ in. and a layout diagram of this board is given in Fig. 2.

In the event that someone feels the printed circuit rules out having a try at this receiver—forget it. A "one off" can be made on "Veroboard" or even matrix board. It won't look quite as nice underneath of course but that may not be a real consideration. The original prototypes were built in this way and the use of boards only became feasible when a large number of people took part.

If you are interested in more details on the board—and for the boards to be described for later stages—they can be obtained by the simple process of asking!

## THE B.F.O. AND CASE

The b.f.o. was the second unit to be constructed in the project and included the 10½ in. x 4 in. x 7½ in. metal case used to house the completed receiver. The cabinets will not be described in detail here since other constructors may prefer to use what they have around. Anyone interested in exact duplication can—once again—get the information by asking.

The circuit of the b.f.o. is given in Fig. 3. An AF115N is used in a high C oscillator and a second AF115N used as a shunt fed buffer amplifier. This amplifier was included to isolate the varying load presented by the detector to the oscillator. Without the amplifier, strong s.s.b. signals were very distorted and almost unreadable.

An OAZ205 zener diode is used on the b.f.o. board to maintain the voltage applied to the collectors at a steady value (about 7.5 v., depending on the OAZ205 used) irrespective of the supply voltage and the variations in current drawn from the supply by the class B output stage. This regulated supply is also used to feed the r.f. and i.f. sections of the receiver. Thus all save the audio section has a stabilised supply—a strong contributing factor to the excellent stability of the finished receiver.

The two 0.0022 $\mu$F. capacitors across L1 are silver mica, as is the 100 pF. padder used to reduce the capacitance swing of the 90 pF. Eddystone b.f.o. note condenser. Note that the tuner is bolted direct to the metal chassis and is isolated for d.c. from the board. No matter whether the positive or negative supply line is grounded to case r.f. continuity for the b.f.o. note condenser is provided by the 0.1 $\mu$F. 25 v. capacitor across the supply rails of the b.f.o.

Adjustment of the b.f.o. will be described in a later article.

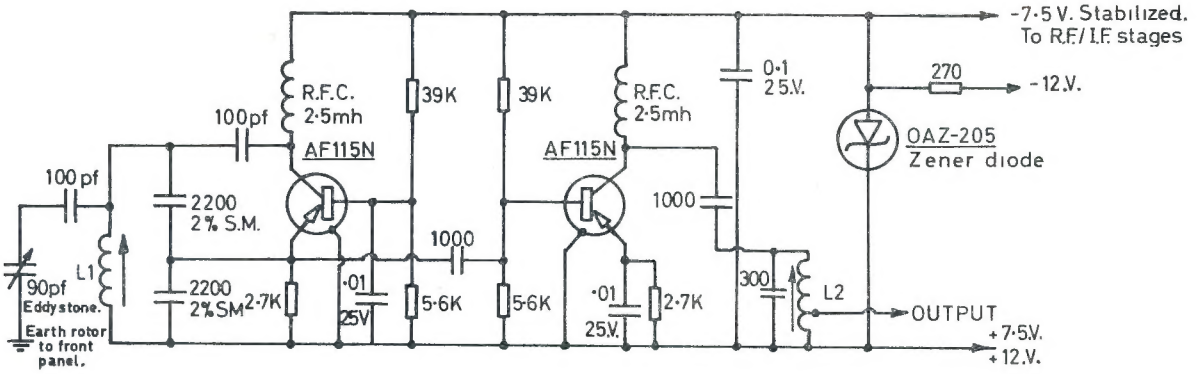



FIG. 3. VK3APC Receiver B.F.O. Unit.

All resistors are half watt types.

R.F.C.—Miniature 4-pie type, wound on ferrite core.

L1—45 turns of 36 s.w.g. on Ducon Q1 miniature pot core.
L2—80 turns, tapped 26 turns from cold end, on a Ducon Q1 miniature pot core.

## F455 - FA - 21 FILTERS

COLLINS Type F455A Mechanical Filters, 455 Kc. Wiring instructions with each unit.
**Price** (inc. S.T.): $35.

## DOW KEY MANUAL CO-AXIAL SWITCHES

R.F. Ratings: lkw. to 500 Mcs.
Fine Silver Finish. Fitted with UHF type S0239 co-axial sockets.

DK78-2 Single Pole two throw .... .... $15.60
DK78-3 Single Pole three throw .... .... $15.60
DK78-6 Single Pole Six throw .. .... .... $15.60
Prices include Sales Tax.

## AMERICAN DOW-KEY ANTENNA RELAYS

Coil Ratings: 6, 12, 24 volts d.c. at 2 watts. 6, 12, 24 volts a.c. at 6va., 50-60 cycles. Special coil voltages available on request.
R.f. Ratings: lkw. power rating to 500 Mc.; 20 watts power rating to 500 Mc. in types DK60-G and DK60-G2C in de-energised condition. The DK60-G and DK60-G2C have a special isolation connector in the de-energised position to reduce cross-talk to a minimum.
V.S.W.R.: Less that 1.15:1 from 0 to 500 Mc. (50 ohm load).
Isolation: Greater than 60 db. at 10 Mc. in DK60 and DK60-2C; greater than 100 db. from 0 to 500 Mc. in DK60-G and DK60-G2C when in energised position.

Operating Time: Less than 30 milliseconds from application of coil voltage; less than 15 milliseconds between contacts.

Connections: Standard SO239 type v.h.f./U.h.f. Co-ax. Connectors. Available with Type N, BNC, TNC and C Connectors to order. $4.16 extra.

Price: Type DK60 standard single-pole change-over .... .... .... .... .... Price $15.28

Type DK60-G standard single-pole change-over with special isolation contact in de-energised position to reduce cross-talk .... .... .... .... Price $16.89

Type DK60-2C, same as DK60, but includes external set of double-pole change-over contacts .... .... Price $17.60

Type DK60-G2C, same as DK60-G but with external double-pole change-over contacts .... .... .... Price $19.17

PRICES INCLUDE SALES TAX. Not always available ex stock. Delivery 3-4 months between shipments. Orders on hand first delivery.

## CO-AXIAL FITTINGS AND CABLE

PL259 Co-axial Plugs, suit ⅝ in. cable $0.98
S0239 Co-axial Sockets .... .... .... .... .... $0.90
UG175/U and UG176/U cable Adaptors for use with PL259 .... .... .... .... .... .... $0.31
C32-16 Right-angle co-axial connector Jack to Plug, suit PL259 .... .... .... .... $1.88
C32-17 T. Connector—Plug and two Jack Ends—suit PL259 .... .... .... .... .... $2.33
C32-14 Coupling for two PL259 Plugs $1.72
Belling & Lee L734P Co-ax. cable plug $0.32
" " L604S co-ax. chassis-socket .... .... .... .... .... $0.28
" " L603/B co-ax. chassis socket ground insulated $0.25
" " L734/S recessed co-ax. chassis socket .... .... .... $0.25
" " L734/J co-ax. cable socket .... .... .... .... .... .... $0.43
" " L1421 Bulk-head cable socket .... .... .... .... .... $0.56
" " L616 Coupling — couple two L734/P plugs .... $0.36
PT81M (UR67) co-axial cable, per yd. $0.55
RG58AU 50 ohm co-axial cable, per yd. $0.35
PT91M (UR57) 72 ohm co-axial cable, per yd. .... .... .... .... .... .... .... .... .... $0.55
PT11M 70 ohm co-axial cable, per yd. $0.35
FORMULA 11 open wire 300 ohm transmission line, 100 ft. coils .... .... .... .... $5.06

## GELOSO V.F.O.

Model 4/104 V.f.o. Unit. Tunes 80, 40, 20, 15, 11 and 10 metres. Uuses 6CL6 and 5763 valves. **Price** (valves extra), $24.60.

Model 4/102 V.f.o. Unit. Tunes 80, 40, 20, 15 and 10 metres. Uses 6J5G, 6AU6 and 6L6 valves. **Price** (valves extra), $24.60.
Prices include Sales Tax.

4/105 Crystal controlled Beat Frequency Oscillator (valves extra), **Price** $25.

Notes on Circuit Application of Geloso V.f.o. Units available upon request.
All Geloso V.f.o. Units are supplied complete with calibrated dial, pointer and perspex escutcheon.

## PI-COUPLERS

### WILLIS MEDIUM POWER TYPE

For use up to 600 watts p.e.p. Match plate loads of 2,000 to 3,500 ohms (Z) and higher into co-axial cable. Operating Q increases on higher frequencies to increase harmonic suppression enabling practical values of tuning capacity to be used on 10 and 15 metres and allowing for wiring inductance (L). Incorporates extra switch section for shunting additional capacity (C) if required, or switching other circuits. Switch rated for 10 amps. at 2,000 volts with contact resistance (R) of 0.8 milli-ohms.
**Price:** $7.95 (inc. S.T.)

### WILLIS PI-COUPLER CHOKE

To suit above Pi-Coupler. No resonances within Amateur bands if spaced diameter or more from metal panels. Stands 6 inches high on 1 inch diam. ceramic former. Base mounting bracket included.
**Price:** $2.50 (inc. S.T.)

### GELOSO PI-COUPLERS

Type 4/111 for use with parallel tubes type 6146s, 807s, etc.
Type 4/112 for use with single ended tubes type 6146, 807, etc.
Both Types, **Price:** $3.95 (inc. S.T.)

### EDDYSTONE 250 pF. CONDENSERS

Type 817 condenser, suitable for use with input of all above Pi-Couplers. Rated 1,200 volts r.m.s., ceramic insulation, fit space 2 inches square by 2¾ inches deep. (Output condenser normal small two or three gang b.c. condenser.)
**Price:** $4.50 (inc. S.T.)

### DUCON 20 KV. CERAMIC COUPLING CONDENSERS, 500, 1,000 pF.

**Price:** $1.20 (inc. S.T.)

**Please allow for Freight when Ordering**

## "WILLIS" AIR-WOUND INDUCTANCES

| No. | Diam. Inch | Turns per Inch | Length Inch | B. & W. Equiv. | Price |
|---|---|---|---|---|---|
| 1-08 | ½ | 8 | 3 | No. 3002 | 52c |
| 1-16 | ½ | 16 | 3 | No. 3003 | 52c |
| 2-08 | ⅝ | 8 | 3 | No. 3006 | 62c |
| 2-16 | ⅝ | 16 | 3 | No. 3007 | 62c |
| 3-08 | ¾ | 8 | 3 | No. 3010 | 73c |
| 3-16 | ¾ | 16 | 3 | No. 3011 | 73c |
| 4-08 | 1 | 8 | 3 | No. 3014 | 84c |
| 4-16 | 1 | 16 | 3 | No. 3015 | 84c |
| 5-08 | 1¼ | 8 | 4 | No. 3018 | $1.05 |
| 5-16 | 1¼ | 16 | 4 | No. 3019 | $1.05 |
| 8-10 | 2 | 10 | 4 | No. 3907 | $1.38 |

**Special Antenna All-Band Tuner Inductance** (equivalent to B. & W. No. 3907 7 in.)

7 in. length, 2 in. diameter, 10 turns per inch, $2.45

References: A.R.R.L. Handbook, 1961; "QST," March 1959; "Amateur Radio," Dec. 1959.

## S.W.R. METERS

KYORITSU Model K-109 Standing Wave Ratio Bridge, 1 : 1 to 1 : 10 s.w.r. Impedance 50 and 75 ohms. Frequency range 1.5 to 60 Mc. Includes 0-100 d.c. microammeter. $20 inc. sales tax.

## GRID DIP OSCILLATORS

Just out! The transistorised EDDYSTONE "Edometer" type G.D.O. 390 Kc. to 115 Mc. with set of seven plug-in coils. Zener stabilisation maintains constant performance with falling voltage. Can be used as g.d.o., for resonance checks on tuning circuits, for actual measurement of inductance and capacity. An in-built modulator stage provides use as signal generator for receiver alignment or as a signal source for audio tests. Can be used as absorption wavemeter, heterodyne wavemeter and modulation monitor. Tuning is simplified by geared reduction drive while the clearly calibrated scale permits rapid reading. Meter sensitivity is adjustable. Unit includes jack for morse key for use as morse code practice oscillator. No external power source required. **Price** $84.75 (inc. S. Tax).

## A & R TOROID BALUNS

**General Specifications:** Power rating—Types A, B, C, 200 watts or 400 watts p.e.p., provided the s.w.r. is less than 2 : 1. Construction—Toroidal ferrite cores, fully encapsulated with epoxy resin and silica under vacuum. Suitable for use in cold to sub-tropical areas. All except 355C and 356C are provided with antenna insulator support brackets. Balun dimensions approx. 2 in. diam. x 1 in. plus socket and lugs. Weight approx. 3¼ to 4 oz.

Type 350A—Impedance ratio 1 : 1. 75 ohms unbalanced to 75 ohms balanced. 3 to 30 Mc. For use at centre of a dipole antenna with co-axial cable feed line or at base end with 75 ohm twin line. Co-axial connector is Belling & Lee L604/S and lug terminals. **Price** $3.77 (inc. S.T.)

Type 351A—Impedance ratio 1 : 4. 75 ohms unbalanced to 300 ohms balanced. 3 to 30 Mc. For use at centre of a folded dipole antenna with co-axial feed line or at base end with 300 ohm twin line connector and terminals as 350A. **Price** $3.77 (inc. S.T.)

Type 352A/BC—Details as 350A except frequency range 500 Kc. to 5 Mc., or to 30 Mc., for receiving purposes only with increased attenuation. **Price** $3.77 (inc. S.T.)

Type 353B—This is a type 350 with a co-axial socket SO-239 (Amphenol screw type). **Price** $4.39 (inc. S.T.)

Type 354B—Type 351 with SO-239 co-axial socket. **Price** $4.39 (inc. S.T.)

Type 355C—Impedance ratio 2.1 : 1. 52 ohms unbalanced to 25 ohms unbalanced. 3 to 30 Mc. For use at the base of a mobile whip antenna, coupled to fixed or adjustable transmitter output impedance. Lug terminals. **Price** $3.49 (inc. S.T.)

Type 356C—Impedance ratio 3.1 : 1. 78 ohms unbalanced to 25 ohms unbalanced. 3 to 30 Mc. Lug terminals. Use as 355C. **Price** $3.49 (inc. S.T.)

## PENETROX "A"

Famous American aluminium and copper corrosion inhibiter. Avoid bad electrical connections and corroded joints on beam antennae, T.V. antennae, etc. Use—
PENETROX "A"
**Price:** $1 per tube
(Post paid)

## "JABEL" TR14 REAMERS

Ideal for clean finish on small panel holes and cleaning out for neat fit.
**Price:** $1.05 each.

# WILLIAM WILLIS & CO. PTY. LTD.

430 ELIZABETH STREET, MELBOURNE, C.1, VIC. Phone 34-6539

# SOME THOUGHTS ON SIX METRE T.V.I.

*ROY HARTKOPF,* VK3ZOM*

THE fall off in 6 metre activity since Channel 0 started has been so great that—for a large part of the time—the six metre band is virtually unused. This is bad from every standpoint, especially if one believes in the "use them or lose them" philosophy.

Shortage of time has prevented the writer building any two metre gear and so he has been on six metres quite regularly and the results of his experience may be of some help to others.

The very first thing is to go over to vertical polarisation. If you like to make a rotatable vertical ten element beam there is nothing against it, but the writer has found that a simple ground plane is surprisingly effective. It eliminates practically all flutter when talking to mobiles; over three DX seasons it has proved—as far as can be seen—as good as any other type of antenna; and finally it has the great advantage that one does not miss contacts, both calling and listening, because the beam is pointing in the wrong direction.

Fig. 1 shows the general construction of a ground plane which can be made in a few hours at the cost of a few shillings (cents to you). Try it. One does not have to have the radials sloping down and out at this peculiar angle, but the general idea is that being half way between a vertical dipole (70 ohms) and a ground plane (35 ohms) it should be a reasonably good match for a piece of 50 ohm co-axial cable. An additional bonus comes from the fact that when you go over to a ground plane you will find a marked reduction in any interference from Channel 0 in the six metre converter.

The second and obvious thing is to keep on the 53.032 Mc. a.m. net frequency or slightly higher, especially during the evenings. The extra megacycle separation makes a great difference to t.v.i. and has no appreciable effect on one's ability to make contacts. If not working on the net choose a frequency within 100 kc. of the 53,032 net frequency. The reason for this is that an efficient high Q trap, when one has to fit it, has a very narrow bandwidth over which it is effective.

Thirdly, you will find there is a threshold power level of your transmitter above which t.v.i. becomes practically inevitable. This is normally somewhere in the region of 5-8 watts, a power when effectively used with a decent aerial is more than enough for normal local contacts. Look how effective the Pye Mark 1 Reporters are. Last summer the writer heard VK4ZLG mobile in the middle of Brisbane at RS 5 and 8. If you experiment with your own t.v. receiver, steadily reducing the transmitter power, you will find this "threshold" effect. A reduction of as little as ten per cent. will make the difference between no picture and practically negligible interference. As mentioned above, this maximum power is something to be found by experiment. Mainly it seems to be governed by the aerial set up.

The above three suggestions are based on the assumption that the mechanical and electrical design of your transmitter is first class, which unfortunately is seldom the case. But here are a few things which can be checked and rectified with very little expense.

Make sure that as little radiation as possible is getting back into the mains either on the transmitting frequency or on any other. Don't take this for granted. If you do a thorough check round power points, etc., with a sensitive absorption meter with the transmitter working into a dummy load you will probably get a horrible shock. The writer has an old home-brew sig. gen., completely enclosed in an aluminium box with only the mains lead coming out. It is low power, using an acorn tube (955) as oscillator. Yet when this is switched on in the house, with output control at zero and not even the output lead in the socket, the little brute gives enough signal to overload the mobile receiver in the car in a tin-roofed garage down at the bottom of the yard!! The car receiver isn't even connected to the mains! Imagine what a crystal oscillator on 48 Mc. could do! One of the simplest and most efficient ways of eliminating mains trouble is to use feedthrough capacitors in **all** h.t. leads including heaters which go to any part of the transmitter, together with a small r.f. choke. In using multipliers avoid like the plague any frequencies which fall in the Channel 0 band.

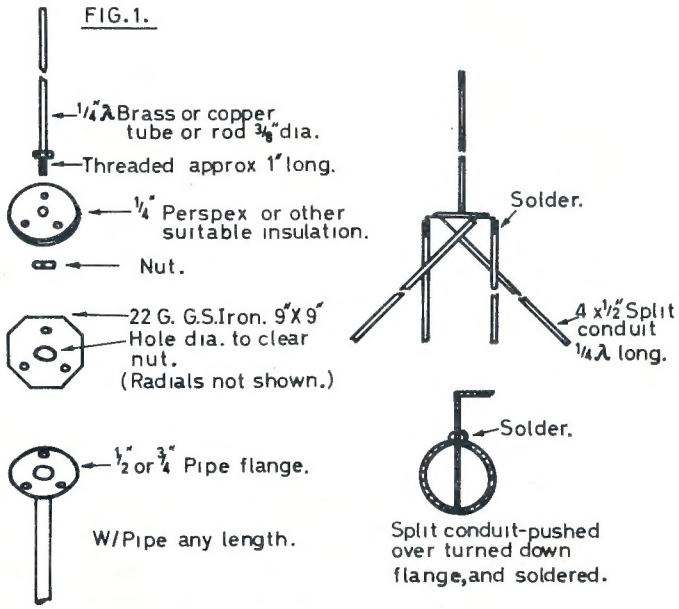
In any case it does no harm to screen all transmitting equipment. One has a neater rig and things like cross-band working and tape recorders can be used without r.f. getting into every audio amplifier and creating a chorus of howls and squeals.

Much of the trouble with poor or unstable modulation at v.h.f. can be traced to r.f. getting into the audio circuits and overloading them. So for your own sake as well as for the prevention of t.v.i. make sure that the only r.f. radiation is that which comes from the aerial.

Even if you have done all these things you will, unless you are very lucky, still have a little t.v.i. to contend with. Begin by practising on the home set. Firstly make sure that the fine tuner covers the correct range. At one end you should be able to get the picture breaking up with sound bars appearing and at the other end you should lose the sound. In between these positions there should be one where the best picture and sound coincide with the least t.v.i. If the interference is still noticeable then is the time to fit a trap.

Fig. 2 shows details of a simple trap which the writer has found to be extremely effective. It is basically a simple series resonant circuit and in effect makes a short circuit across the t.v. set input at the transmitter frequency. The reason for the two capacitors can easily be connected to the terminals of the set along with the 300 ohm ribbon. No soldering is needed. Then, since the coil centre axis is parallel to the back of the set it is very easy to insert a tuning wand and watch the result at the same time. (During the adjustment the transmitter must of course be running with a

FIG. 1.




Co-ax cable fed up inside the tube support. Inner to 1/4λ tube or rod and outer to radial plate.

* 34 Toolangi Rd., Alphington, N.20, Vic.

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF THE NAVY

# AIRCRAFT MAINTENANCE AND REPAIR BRANCH

# NAVAL DEFENCE ACT VACANCIES

## SENIOR TECHNICAL OFFICER, GRADE 1 (2 positions)

**SALARY:** $4236-4540 (actual).

**DUTIES:** Position No. 23.

Responsible to an engineer to act as section leader on maintenance engineering aspects of Naval aircraft communication and navigation radio equipment and associated test equipment. Some development work is involved. Initiate and prepare technical orders and correspondence, progress investigations relating to defects, modifications, spares, etc.

**QUALIFICATIONS:**

Some theoretical training in Radio engineering. Considerable experience on the maintenance of aircraft communication and navigation radio systems and associated test equipment, and some knowledge of British and American procedures desirable. Ability to direct staff, prepare correspondence and reports.

**DUTIES:** Position No. 18.

Responsible to an engineer to act as section leader on maintenance engineering aspects of Naval Aircraft electrical and ignition systems including associated test equipment. Some developmental work is involved. Initiate and propose technical orders and correspondence, progress investigations relating to defects, modifications, spares, etc.

**QUALIFICATIONS:**

Some theoretical training in Electrical engineering. Considerable experience on the maintenance of aircraft electrical and ignition equipment together with associated testing facilities, and some knowledge of British and American procedures desirable. Ability to direct staff, prepare correspondence and reports.

**LOCATION:** of the above positions—

Initially in Melbourne but to transfer to Sydney in January, 1967. Transfer will be made to Sydney at departmental expense. An allowance will be payable to the successful applicant whilst located in Melbourne except for Melbourne applicants.

## TECHNICAL OFFICER, GRADE 2

**SALARY:** $3768-4072 (actual).

**DUTIES:** Position No. 50.

Responsible to a Senior Technical Officer for the provision of technical advice to all Contractors engaged in the servicing, repair and overhaul of aircraft radio and electronic equipment.

**QUALIFICATIONS:**

Sound basic training in radio and/or electronics. Wide experience in the maintenance of airborne radio systems, preferably in military aircraft. Ability to prepare reports and correspondence.

**LOCATION:** Sydney.

## APPLICATIONS

**To reach the Secretary, Department of the Navy, Canberra, A.C.T., by 5th August, 1966, preferably on forms obtainable from the following centres:**

**Canberra** .. .... .... **Telephone 65-3629**
**Sydney** .. .... .... **Telephone 35-0444, Ext. 495**
**Brisbane** .... .... **Telephone 31-1611**
**Melbourne** .. .... **Telephone 69-0440, Ext. 6712**
**Perth** .... .... .... **Telephone 39-1521**
**Adelaide** .... .... **Telephone 49-6123-5**

tone or a tape recorder or a second operator providing normal modulation.)

For those who haven't a tuning wand it can be made by cementing a small dust core slug to one end of a plastic knitting needle and a piece of brass or copper about the same size to the other end. Wrap a little tape over them to prevent the metal touching the coil and make sure the wand is small enough to go inside the coil. The first time the writer tried this on a neighbour's t.v. set the results were amazing. As the tuning wand was poked slowly and carefully into the coil the interference disappeared so suddenly and completely that the writer thought for a moment that the transmitter had packed up!

You can't of course leave the tunwand permanently in the coil but here again the design of the trap makes adjustment very easy. If inserting the dust core end clears up the interference then squeeze the coil together a little, and if the insertion of the metal slug clears it then pull the ends of the coil apart.

For preliminary adjustment of the trap either use a g.d.o. with the leads which one normally connected to the t.v. set shorted or connect a torch bulb between them and hold it near the tank coil of your transmitter and squeeze or open the coil until it resonates. Use a frequency round about the middle of the band (i.e. 53 Mc.).

Another thing which can sometimes be helpful in very strong signal areas is to put a couple of small carbon resistors in series with the antenna leads. This will attenuate both the signal and the interference and reduce the possibility of front end overloading in the receiver.

**PUBLIC RELATIONS**

So much for the technical problems. There still remains what we could call the social, public relations and personal problems. In the writer's opinion these are far more important even than the technical ones and unfortunately receive the least attention.

Imagine you are on the air one evening and a neighbour whom you hardly know bangs on the front door and tells you he cannot hear his programme because of interference. Like most people he is probably a well meaning bloke who hasn't a clue about anything technical. He feels annoyed and at the same time embarrassed about coming round and complaining. To get enough moral courage to come and knock on the door he has probably had to work himself into a state of real or imaginary temper. How to deal with such a person?

Don't start off by denying anything and, even worse, don't start apologising. Just be friendly and interested. Ask him how long it has been going on. If he has been a week or two working up enough courage to come and complain he will want to get it off his chest. So listen with sympathetic interest while he tells you how he missed the really good sexy bit of the review, and never found out who killed the blackmailer and missed the best part of the massacre in the Hollywood epic.

The longer he goes on talking the better and his relief at finding a sympatheic listener will make him feel so much better that he will be prepared to co-operate to the full.

There was one classic instance of the effectiveness of this approach when one complainee, after sorrowing for ten minutes and basking in an atmosphere of sympathetic interest, finished up by saying, "Of course it isn't really so bad and most of the programmes are so rotten it does not matter much if we do miss a bit."

When he has completely finished you can start asking him questions. Has he got an outside aerial and has it been put up by a qualified serviceman. If he hasn't tell him that the radio inspectors will have nothing to do with any installation which is not up to standard and in the same breath say that you have—being interested in radio—designed some special traps which will probably clean up the interference in spite of his sub-standard installation. (It is of course more tactful to use the words "indoor aerial.") When you go

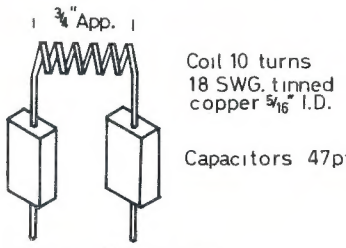



FIG. 2. 53 Mc/s trap.

down to fit the trap try moving the lead and the aerial. You will sometimes find that a few inches will make all the difference. Show him how critical this kind of set-up is, explain how dicey the television wavelengths are, and without being offensive, always make it clear that it is his installation not yours which is faulty.

If he has an outside aerial then ask him if the set has had Channel 0 fitted by a qualified serviceman. If the answer is no, then repeat the routine above with suitable variations.

If from his answers it seems that everything is in first-class order then tell him about the trap and arrange to go down and fit one. Before doing so, however, see that his aerial looks O.K. and is pointing to the television station and not in the wrong direction. Also check the socket and see that one lead of the ribbon is not hanging loose, a very frequent occurrence. Then fit the trap and unless you are very unlucky the troubles will be over.

Occasionally, however, you may come across a real no-hoper. There are two kinds of no-hopers, human and electronic, and the method of dealing with them is the same in both cases. Get in touch with the radio inspector.

From the writer's personal experience it would be hard to find anyone more helpful, sympathetic and cooperative than the average radio inspector. In addition, he has had more experience in all kinds of interference than anyone else and has all kinds of unexpected clues and answers. One no-hoper (electronic, not human) problem, where the fitting of a trap eliminated Channel 0 interference but broke up Channel 2 (apparently because of tuner instability), was very neatly solved by the R.I. bringing a television set which he carried in the car, into the house and showing the people that it would receive perfect, interference-free pictures on all channels, using the same aerial and power point.

Another case, where interference complaints came from a person several streets away, the trap removed the interference and a fair amount of Channel 0 as well. It was obvious that the front end r.f. stage was tuned to the Amateur band or higher.

Again the person was politely but firmly told by the R.I. that the receiver was responsible and should be attended to.

Human beings tend to accept and hold illusions just because they are too lazy to think for themselves. One of the most widespread of these illusions is that the majority are always right. Actually if we look at history we will find that progress has been achieved by the minority of cranks, saints, prophets and martyrs, with the majority dragging along reluctantly like Paddy's goat; and only moving of their own accord when things get so desperate (through their own laziness) that they have to do something.

One could enlarge on this theme indefinitely but the point is that, because a thousand people watch witless cowboy films and gangster thrillers and only one person runs an Amateur transmitter, that fact does not make a thousand right and the lone Amateur wrong. In the writer's opinion there is far too much apologetic talk among Amateurs about service to the community, as though they had to justify their existence. Has anyone thought of asking the square-eyed tele-addicts to justify their existence. They would be hard put to do it!

The average Amateur might not be a budding Marconi, but the very fact of using, operating, and (we hope) constructing radio gear means he is learning, without expense to the community, skills without which a modern society could not exist and without which the majority would not have any thrillers to look at.

A little pep talk along these lines, tactfully put over while one is curing t.v.i., does no harm at all, and one sign that it has been effective is when the people offer to pay for the time and cost of fitting the trap. It is very bad policy to accept anything, but the offer does at least show that the assistance has not just been taken for granted.

One final word of warning. Do not ever let your enthusiasm get the better of you to the extent of offering to do anything to the t.v. set. Do not ever even take the back off. If you can and do fix anything your efforts will be taken for granted and if anything goes wrong with the set for the next five years you will be blamed. On the other hand, if the people show any interest in Amateur activities by all means invite them to see your shack and say a few words over the air.

Curing t.v.i. is not necessarily a chore, It is another aspect of Amateur Radio and one in which it is still possible to make new and interesting discoveries. In fact, this and the u.h.f. bands offer perhaps the best opportunities for the pioneering Amateur of today. So good luck and see you on six.

# SIDEBAND TOPICS

## COST STRUCTURE OF IMPORTED S.S.B. TRANSCEIVERS

Recently, most American Amateur equipment has been increased in price. The SWAN SW350 and GALAXY V. Transceivers, without accessories, now cost U.S.$420 in the U.S.A. Adding freight, insurance and handling overheads, this equals an even $400 in Australian money. Disregarding local import duties, this comes to $450 after adding the inevitable 12½ per cent. sales tax.

However, we have to allow for the 45% import duties on the importers' net cost. In the past I have tried hard to get admission of strictly Amateur gear under By-law (reduced or no import duties) provisions, but without luck. Here are some extracts from letters received from the **Commonwealth Department of Customs and Excise:**

> "The Customs Tariff does not make provision for admission under By-law to single sideband Transceivers when for Amateur use."
>
> "In respect of such goods for commercial use, Transceivers are available from . . . (names of Australian manufacturers) . . . and for the purpose of By-law administration, suitably equivalent to imported units."

In future, therefore, the cost structure of SWAN and GALAXY Transceivers, in round figures, will be:

| | |
|---|---|
| U.S. dollar retail price | $420 |
| 30% discount, **only** on large orders | 126 |
| | $294 |
| 45% import duties (add packing cost) | 133 |
| 12½% S.T. on landed cost, plus 20% | 64 |
| Approximate freight, insurance, etc. | 19 |
| Total **landed cost** in U.S. dollars | $510 |
| Approximate Australian money equivalent | $460 |

If sold for much under $580, the Australian importers will have less than 20% **gross** profit mark-up to cover all their expenses, risk, warranty liabilities, etc. Few can be expected to do that.

It should be clear what real bargains Australian Amateurs have been enjoying. I shall continue to sell my present stock at the old prices, see April and May 1966 advertisements in "Amateur Radio," but when new supplies arrive the prices will have to go up. I maintain stocks of:

- ★ **SWAN SW350 latest model Transceivers.**
- ★ **GALAXY V. Transceivers, with the best receiver of the lot.**
- ★ **HY-GAIN multiband verticals and 3-band Yagi Beams.**
- ★ **Co-axial Baluns.**
- ★ **C.D.R. and ALLIANCE Antenna Rotators.**
- ★ **WEBSTER Bandspanner all-band Mobile Whips.**
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—Arie Bles.

## SIDEBAND ELECTRONICS ENGINEERING

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# SIDEBAND

Sub-Editor: PHIL WILLIAMS, VK5NN

## CRYSTAL FILTERS FOR S.S.B.

It is apparent that the crystal filter will become the "work-horse" of commercial single-sideband during the early 1970's when many point-to-point and mobile h.f. services will be changing over to this mode of transmission. This is not to discount the widely used mechanical filters, mostly manufactured for the popular i.f. frequency of 455 kcs., and also on certain lower frequencies. Where equipment is to be kept simple, cheap, and free from the problem introduced by multiple mixing (such as the elimination of unwanted frequencies) the h.f. crystal filter in the 4 to 10 Mcs. frequency range, comes into its own.

Many Amateurs with patience, ingenuity and a certain amount of good fortune have been able to produce very good crystal filters in the 400 to 500 kcs. range using surplus type FT241 crystals, and in the h.f. range using FT243 type crystals. Although this is not a "how-to-make-one" article, you are referred to back copies of "A.R." and the article in "QST" of October, 1960, by D. J. Healey W3HEC. Just remember that any design using a high impedance filter terminator, e.g. a low C tuned circuit, should be suspect. David Robertson VK5RN/W2 went to the trouble to optimise the FT243, 2-half-lattice filter design by digital-computer studies, and his results were published in "QST" of July, 1964, p. 58. The curves he gives are worth studying as they could save a number of your "experimental" crystals. The use of plated surplus crystals should be avoided as the pole-zero frequency spacing is usually excessive, being about 5 kcs. or more. An exception to this statement is the special list of filter crystals marketed by the International Crystal Co. in U.S.A —the crystals are specially made.

## COMMERCIALLY MADE FILTERS

The following is a general discussion of a few of the "facts of life" about filters.

H.F. crystal filters are relatively new to come on the market in countries other than U.S.A., and even there, up until two or three years ago, were produced by only a few specialist firms. Now we hear of British, German, Japanese, Canadian, Russian and Australian firms about to produce reasonably priced s.s.b. filters in the 2 to 3 kcs. bandwidth class. These filters are usually of two grades, the 4-crystal filter having spurious "pop-ups" about 45 db. below maximum in-band response, and 6 (or 8) crystal filters in which the "pop-ups" are better than 60 db. down, and the shape factor slightly better (steeper sides). My experience has been that the former (cheaper) type is quite adequate for transmitting duty with some treatment of the audio amplifier to reduce response below 300 cycles and above 3 kcs. They are also quite good enough for v.h.f. s.s.b. on 6 or 2 metres, where the band is megacycles wide, but for receiving or transceiving in your home station, the better filter will be justified for removal of strong signals on adjacent channels when you are struggling with "strength 2" DX stations.

Where separate filters are used for selecting upper or lower sideband, these may be asymmetrical filters having a steeper slope adjacent to the carrier crystal and the pop-ups, too, are lower on this side. The majority of filters made for the Amateur are symmetrical, and are supplied with upper and lower sideband crystals.

Since the manufacturer has to do quite an amount of development on each filter and then spend money tooling up and providing a test line, you are well advised to buy his standard filter. If you ask for another type on another frequency just to suit some surplus mixing crystals you have, you will be surprised at the price quoted, to say the least. You will get the same answer if you demand an "obsolete" type, too.

It is fortunate that the narrow band filters having a bandwidth of about 1.3 times the "pole-zero" spacing are the easiest and cheapest to produce.

Expressing the bandwidth as a percentage of the centre frequency we can roughly divide filters into the following classes:—

1. 0.005 to 0.3% bandwidth—relatively cheap and easy to make—includes Amateur 5 and 9 Mcs. types.
2. 2 to 10% bandwidth — so-called "wide-band" filters. These use inductances in special designs to broaden the pass-band, and designs are more complex.
3. 0.3 to 2% bandwidth—i.e. quasi-wideband filters. These are neither type 1 nor 2 and require quite a lot of design and development, resulting in a high-cost filter.
4. Non-standard configurations, such as steep cut-off on one side, special slope characteristics, delay and phase compensation and other special features. Cost will be high depending on stringency of specification, but equipment manufacturers can frequently obtain reasonable quotations for quantity production.

There are no standards either of the commercial or military variety for filters as yet, so you just have to trust the maker and go by his past record of production of acceptable filters—his published data and instructions as to how to use the filter, for optimum results.

One cannot expect fast delivery of special filters because of the relatively slow ageing of the filter crystals. Several months is quite usual from a factory almost next door.

Delivery of standard filters already on the shelf, is, of course, ex-stock.

In general the cost of filters of the standard variety is dependent on the number of sections. The 3 section (6-crystal) filter is about 50% more costly than the 2 section (4-crystal).

The variables which must be specified when a manufacturer orders a filter, are:—

Termination.
Operating level.
Input power.
Attenuation.
Centre frequency.
Spurious responses.
Type of response.
Environment,
and tolerances on the above.

For Amateur application temperature tolerance is not of any consequence, where a 50-cycle frequency change is typical of 9 Mcs. over a 10 to 50°C. temperature range. A specification of—say 50 to + 100°C., can give a frequency change ten times the above figure, and this is another story.

Termination of a filter is usually related to its natural impedance and is usually specified by the maker. The circuit designer must meet this requirement in his own way (many "equivalent" circuits are permissible), if the termination is not already sealed into the filter case. Low frequency filter crystals are better for "temperature range," and high frequency crystals for "vibration." While these do not worry Amateurs, some compromise will be necessary for a commercial or military design. Overdrive can frequently damage filters and degrade performance. An input of 10 milliwatts is a typical upper limit. Isolation from d.c. is essential, and goes without saying more.

Filter tolerances should not be tighter than required as this may reduce the yield of crystals from a production run making the cost of the system quite prohibitive. Many filters are specified on a c.w. response curve basis, but the user should remember that few of them work under this condition and therefore transient response is all important. For the Amateur, this means that the speech must "sound" right. I consider this to be a defect in the performance of the usual mechanical filter—but these still have other desirable attributes for purely "communications" quality.

The low loss of the crystal filter makes it desirable for Amateur use. When comparing loss figures, however, the basis on which these were taken should be considered, e.g. was the db. loss a power loss, or a voltage transmission loss when correctly terminated?

I trust this long list of considerations does not deter any Amateur from using up that stack of FT243 crystals and the jar of ammonium bi-fluoride (slowly eating its way through the bottle) on top of the cupboard in the shack. With care you will produce an acceptable filter.

73 for now, Phil 5NN.

N.B.: That old sidebander south of Perth, Bob VK6RG had his 66th birthday on the 6th day of the 6th month of 1966. Congrats. Bob!

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## CONTEST CALENDAR

13th/14th August: REMEMBRANCE DAY CONTEST.

10th/11th September: W.A.E. Contest (Phone).

1st/2nd October: VK/ZL/Oceania DX Contest (Phone).

8th/9th October: VK/ZL/Oceania DX Contest (c.w.).

15th/16th October: R.S.G.B. 21/28 Mcs. Telephony Contest.

29th/30th October: R.S.G.B. 7 Mcs. DX Contest (Phone).

Dec. 10th/Jan. 15th: Ross Hull Contest (v.h.f.).

11th/12th February: John Moyle Memorial N.F.D. Contest.


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## TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R.," in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.

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# VK4AT MIGHT GO ON THE AIR

GETTING on the air! There's really nothing to it. I am already pawing the air. Everyone around here is exhausted, but not me.

I admit that my five passes in the A.O.C.P. exam. (not all at once) really shook me. No old war horse was faster off the mark. A power supply was acquired by ballot—sight unseen. It was advertised as a Minor Supply, but it would surely be big enough for a v.f.o.

My complacency was shattered somewhat when two big men successfully delivered it. Evidently they sold these things by the cwt. Its brand disturbed me not at all—R.A.A.F. Minor Unit No., etc. The sight of two 807s clearly indicated that the transmitter was still stuck on it.

There was no evident provision for the aerial lead on the relay and voltage regulating two 807s with a single 105/30 V.R. tube was a stunt that had escaped my notice in the past. However, the 5Y3 circuit was okay and a couple of 866s looked good. Now, on occasion I have myself depicted electrical currents flowing in paths not usually followed by them, but I needed no circuit now to show me similar phenomena.

Additional to the above were two manually operated resistor gadgets that allegedly raised the voltage as further resistors were introduced into the circuit. Poor Mr. Ohm! At such a sight I was pleased to note that my state of learning had reached such a level that I could effortlessly assume that air of horrified nonchalance sacred to the ranks of our older and very superior Hams.

On reflection I reverted to my former status and took the whole works into our Gympie Lecturer, Eric VK4XR. His verdict: I was to rip all gadgets and surplus bits out, change the bias wiring into a plus supply, replace the former 20 watt 1500 ohm bleeder with a larger one (the present one measures 7 inches by 1 inch diam.) and change it from cap. to choke input. I was to leave the 500v. per side circuit as was, and was not to put my finger—**There, there** and **there** when the power was on!

In addition, if on adding the power the valves lighted up brilliantly and then went out, I was to re-check the wiring. If the switchboard fuse went it indicated a supply fused wired out. If no fuse went and the Supply started to smoke it only meant that I had bypassed all the fuses. On my departure with the precious Power Supply, he could not have been more warm in his way even if he had never expected to see me again.

I just had all the surplus bits ripped out when Barry 4LN arrived. He said that the local Radio Club was so short of active members that they couldn't afford the numbers to lessen, but I could hand him the side cutters and the pliers and he was going to take the Power Supply home with him when he left. I reminded him that I was already teaching a chap from a neighboring town who worked in the S.E.A. Barry 4LN was unimpressed but observed that as they were already short handed in the S.E.A. it would be a good idea to bring him along too, on my next visit to the Power Supply. This I did.

Now, 4LN tosses components around as though he were playing with his grandchildren, but on the first move from one of us he would yell, "Don't touch it—**There, there** and **there!**" He enquired if we both understood Relays. I could confidently answer in the affirmative. They were those things that made a chattering noise as you hooked the leads on the right terminals, but the chattering noise was not made by them if you made a mistake and selected the wrong terminals. So now I am to have relays on my Power Supply . . .

As soon as I finish the last half of this little book that I'm currently reading (a translation of Albert Einstein's Relativity—The General and Special Theory 15th Edition 1954) I intend to hook on the said Power Supply to my $10 Command Transmitter, take a tranquiliser and switch on! I understand that spits, sparks and sniffs don't worry you then.

—A. J. C. Thompson, Skyrings Creek, Pomona, Qld.

☆

## Father Xmas, Fairy Godmothers and all

Has anyone ever telephoned you to ask whether you would like a transmitter and receiver covering the 3.5, 7, 14 and 21 Mc. bands which could be used on c.w., a.m., s.s.b. and r.t.t.y.?

Probably not, and it had certainly never happened to the Hon. Secretary of the Royal Signals Amateur Radio Society before. The caller was the society's president breaking the news that the Marconi Company were to present the society with a complete D11/R234 Installation.

Whilst many members of the Signal Corps will be familiar with the D11 a brief description for the benefit of readers will not be amiss.

The transmitter known by makers' designation as the type HS7, covers from 2 to 22 Mcs. and has a P.E.P. of s.s.b. of 350 watts.

The frequency range is covered in a series of 1 Kc. steps, the frequency being set on a series of decade switches and a phase locked oscillator locked to the synthesiser to give the required frequency. Once set a maximum drift of one-third of a cycle is claimed. The transmitter has a CRO built into it for radiation monitoring. Audio test oscillators are built in to give the standard two-tone test for linearity.

Apart from s.s.b. the transmitter can be used for c.w., a.m. and f.s.k., the latter with three shift frequencies.

The accompanying receiver, the R234 or makers' designation H28, covers 2-28 Mcs. continuously. It was built in 100 and 10 Mcs. calibration oscillators. When the received signal has a carrier, automatic frequency control compensates for any drift.

The operators at G3CIO, still slightly staggered by this magnificent gift, are busy familiarising themselves with the equipment which will certainly be fully used in the months to come.

Who said there was no Father Xmas?

—VK2ZVC. With acknowledgment to "The Wire" (The Royal Signals Magazine).


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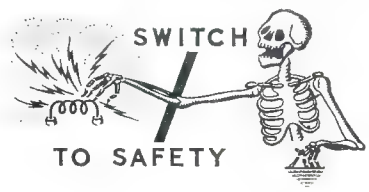

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# *Book Review*

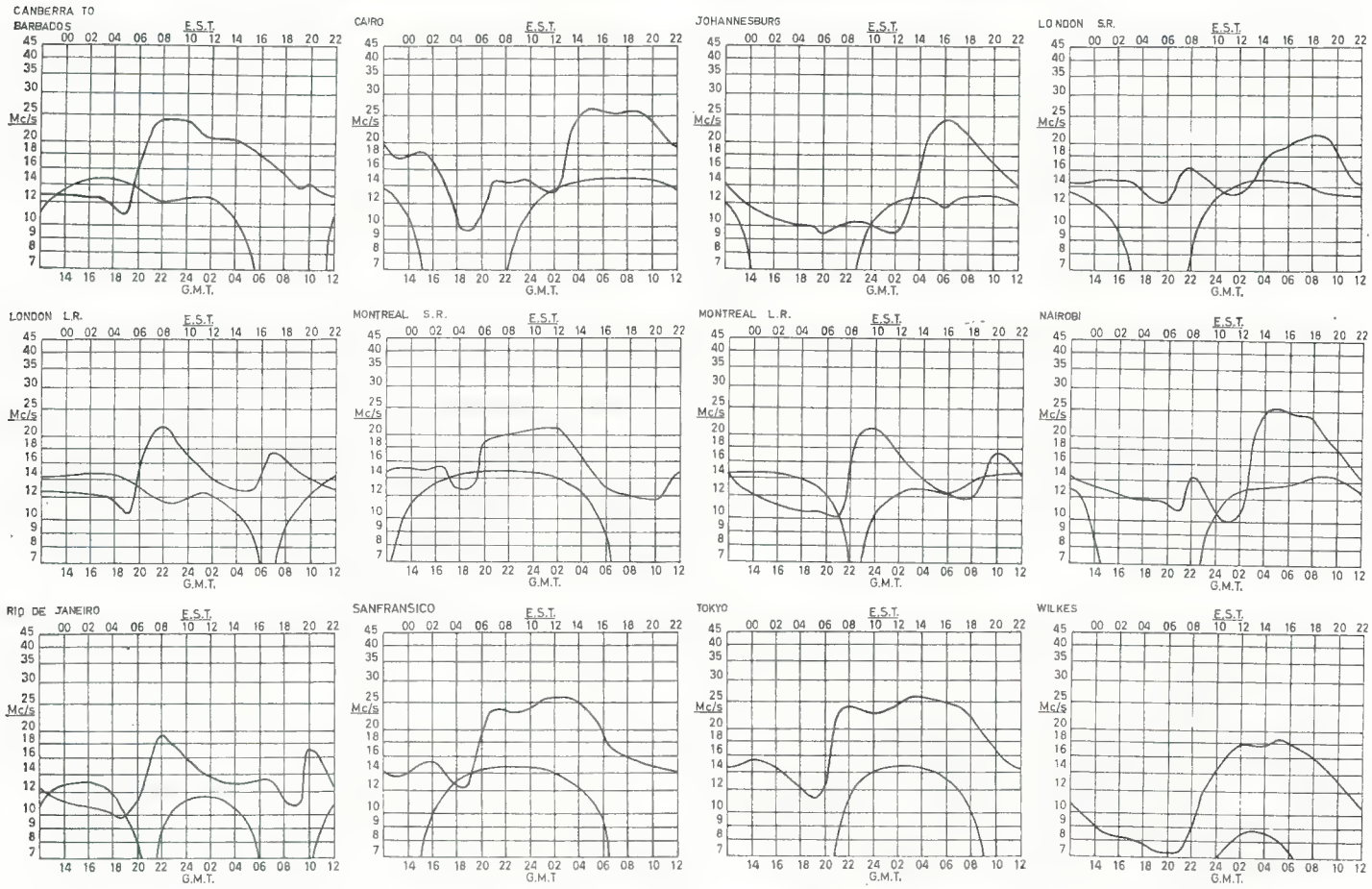
**1966 WORLD RADIO T.V. HANDBOOK**

This book is fast becoming an essential requirement for the serious short-wave listener. The 20th edition continues the high standard of its predecessors. All the usual sections have been brought up to date, and several new features have been added. Perhaps the best way to illustrate the comprehensive coverage of the short-wave spectrum that this book provides is to list some of the section headings, such as Call-sign Allocations, DX Clubs of the World, DX Programmes, Frequency Bands Allocated to Broadcasting, Television, Amateurs, News in English, Long and Medium Wave Stations, Radio Reception Conditions, Short-wave Stations of the World, Standard Frequency and Time Signal Stations; Where to Listen for Satellite Signals, and many more.

Publisher, World Radio T.V. Handbook Co. Ltd., Denmark; Australian price $4.50, postage 15c.

Review copy supplied by Technical Book and Magazine Co. Pty. Ltd., 289-299 Swanston Street, Melbourne, C.1.

## PREDICTION CHARTS FOR AUGUST 1966




(Prediction Charts by courtesy of Ionospheric Prediction Service)

# DX

Sub-Editor: ALAN SHAWSMITH, VK4SS
35 Whynot St., West End, Brisbane, Qld.

While the bands may seem a little quiet, there is, however, a fair amount of news to hand re future activities. This spring promises to produce some good DX. So how about the gear? Is it all tuned up and in GO condition?

### NOTES AND NEWS

**San Salvador:** Carlos YS2CL reported as very active on 14 s.s.b. after midday E.A.S.T. QSL Box 102, Santa Ana.

**Andamans:** VU2DIA on almost daily around 14,015. Audible here both mornings and afternoons E.A.S.T. Note sometimes a lil' ruff T7-8. Jeff Coles VK6JC reports having worked him and having his QTH as Hegde, ISPW, Port Blair. (Thanks Jeff.)

**St. Maartin:** PJ2ME, 14 c.w. after 0400z.

**Mongolia:** JT1AG, JT1AD, JT1AA all active 14 c.w. Mostly after 0700z.

**Comoro:** FH8CD works 21 s.s.b. at week-ends. His English is limited so speak QRS.

**South Shetland Is.:** VP8IN QRA Graham Land is now on 14 c.w. 0500z or later.

(The above by courtesy of Roger, VE3FXR.)

**San Andres:** HK0AI, HK0AV are both active, c.w., 14 Mcs., around 2300z.

**Egypt:** SU1AR is on 21 Mcs. c.w., SU1IM, SU1DL aer on 21, 14 Mcs. c.w.; SU1SU is on 14 Mcs. s.s.b.

**Vietnam:** K1YPE/XV5 is now active. K1RAW is en route for here, and has applied for a permit to operate. QSL K1RAW/XV5-WA1AZW, C. Manscott, 37 Fester Dr., Framington, Mass., U.S.A.

**Br. Honduras:** VP1HB, s.s.b. low end 14 Mcs. VP1LP c.w. 21 Mcs.

**Aleutian Is.:** WA2WVV/KL7, WA6YWT/KL7 are now active from Shenya AFB.

**Bahrein:** MP4BBA, a R.A.F. Club station, is active a.m., 21 Mcs., most days.

(By courtesy of G3UGT, "Airwaves".)

**Lloyd and Iris:** They have completed a stay GD5 and have now moved on to Jersey.

**Glorieuses? Comoro, Aldabra** operation by CR7GF and ZD8HL has been delayed until 25th June or 5th July.

**Tristan Da Cunha:** Alan, ZD9BE has received the s.s.b. equipment and is active on 20 mx.

**Azores:** CT1JJ and CT1IW will be active from here soon using call CT2JJ.

**Malpelo and Bajo Nuevo:** This trip is definitely off.

**Algeria:** Several 7X stations reported lately. 7X2AH probably the most active, 14 Mcs., c.w./s.s.b.

**Turkey:** TA2AA reported on 14,140, s.s.b., from 1400-1430. Also TA1AX at 0315 G.M.T. on 14,053.

**Rio De Oro:** A Spanish official who is licensed, will be a permanent resident here for about three years.

(By courtesy Fla DXer, Jesse, W4MVB.)

**Canton Is.:** K4ERU/KB6, Reg., 14,300 Kcs. at 0815 G.M.T. QSL via Bendix Field Engineer, 3131 Nimitz Hwy., Honolulu, Hawaii-ATTN Canton Is.

**South Shetlands:** CE9AO, Deception Is., 7009 at 0830 G.M.T. QSL via Calle Hospital, I.E.M.1, San Felipe, Chile.

**Pitcairn Is.:** Tom, VR6TC operates in the following manner: Mondays 21,065, 2000z; 21402, 2030z. During the week he is on 20 s.s.b., 14,153, 0700z.

**Eastern Carolines:** KC6CE, 14,228, at 1200 G.M.T., and KC6FM, 14,220 at 1130, are the only two stations active from here at present.

**Midway:** Bob, KM6BI, 14,245 at 1330 G.M.T., usually week-ends.

**Brunei:** VS5MH reported on 14,222 at 1230 G.M.T. by W2IOT.

**Campbell Is.:** ZL4CH, 14,053 at 0430 G.M.T., week-ends.

**Formosa:** BV1USA, op. John, says he will be on regularly at 1200 on 14,245. QSL to CB QTH.

**French Guiana:** FY7YL asks that his QSL's go via FG7XL. S.A.E./I.R.C.'s G.M.T.

**Qatar:** John, OD5EE, wilr be going here in about a month on business. Big John, the Texan, was here in Australia a couple of years ago but did not take out a call. He is always ready to yarn with VK's. His call will be MP4QBB. QSL K4TJL.

**Guernsey:** Loyld and Iris will sign GC5ACH/W6KG about the time you receive these notes. QSL YASME. With Dick, GC8HT, flat out from here also, I imagine some QRM may occur.

**Rockall:** Bob Lane, G5AAM/WA6ZIQ. G3GJQ and possibly Ian 4S7IW will be leaving Northern Ireland by ship on July 27, and make their landing on the rock by helicopter on July 29 or 30 if all goes well. There is a 30 per cent. chance of successful landing, and conditions are quite dangerous. The operation will be a minimum of 4 and a maximum of 8-10 hours. They will operate only s.s.b. using 14,125, and listening 14,250-60. GR3RAF is a possible call. QSL via G3NAC. (Is it worth it??? Al.)

**Desroches and Farquahar:** The proposed trip by VQ9BC, TC, HB has been put off, probably until August, due to transportation problems.

(By courtesy of LIDXA.)

### ACTIVITIES

Dud, VK4MY, now basking in the luxury of new gear reports working the following on 14 c.w.: VE7BSM, YU2GN, SM4CHM, UW9EA, DJ2GG, DJ6RK, XE2DL, DJ0LC, OK2BIX, XW8LN, VE5KC, GC2FMV, G3GQS. Mostly around 0700 and 2000z.

Jeff, VK6VC, sends in no specific list, but reports: Conditions in west fb., Sth America in mornings, Europe in evenings, regularly.

Chas., VK4UC, still picking them off on 20 mx c.w. reports the following: YV1AB, VR0A (who might be a pirate?), UJ8AB, LA4ZH/MM, OH2BCP, UQ2AB, UA0DY, UA0EEU, HM1CG, HI8XAL. QSL's received, HR5LB, UB5ARTEK, UM8KAK, OH9QO, OH7PJ, 4X4MN, 9M2RI, UC2AN, HI8XAL, etc.

Ossie, VK3AHK, writes an interesting letter giving details of someone usurping his call—a pirate in other words. This sort of thing is becoming far too common and blatant. Some publicity on an offender caught in the act would no doubt be a strong deterrent.

Ossie is a QRP man, 20 c.w. and sometimes a.m., 50-75 watts. Rx Eddystone. (How about some activity reports, O.M.)

### QTH's

EL8C, VE3DGX; ET3JK, W3MCB; K1YOO/KP6, W1MV; MP4TAO, DJ1BZ; PJ5MF, VE6TP; PJ5SB, K0GZN; PX1JS, F9JS; PX1IR, K7BVZ; PZ1AP, W2CTN; PZ1BE, WA4KXC; SU1MS, DJ0FB; VE2FFW/SU, K1EAT; SV0WT, W5GMS; SV0WDD, WB6EFW; T19RC, W4ECI; TT8AJ, K2UYG; TU2AU, VE4OX.

### SUMMARY

It seems that Edward L. Duffy, Chief Councillor for the Alcoholic Research Clinic at Lankenau Hospital in Philadelphia, may have inadvertently aired some of Hamdom's Domestic Dirty Linen; as far as the U.S.A. is concerned anyway. The hospital concentrates on the rehabilitation of women alcoholics. Of 69 patients, who said their husbands were insensitive and un-loving, in an article which appeared in "Cosmopolitan," April, 1965, Mr. Duffy has this to say: I quote: "Many of these husbands happened to be Ham Radio Operators, a hobby of **structural, indirect, distant communication.** Some of them seem to need a wife who is a 'hat rack' on which to hang their own shortcomings."

(I've heard it all, if that's a psychiatrist's description of A.R.—Al.)

Personally, while I do not doubt Mr. Duffy's findings, I think he makes 2 plus 2 into 5, as I can't for the life of me see why A.R. should in this regard, be any better, or worse than any other hobby, or profession that tends to be demanding on one's time.

Anyway, it's food for thought for us all. Sorry to end on such a sombre note.

73, Al, VK4SS.

— . . . —

## W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

### PHONE

| Call | Cer. No. | C'nt-ries | Call | Cer. No. | C'nt-ries |
|---|---|---|---|---|---|
| VK5MS | 24 | 330 | VK4HR | 12 | 265 |
| VK3AHO | 51 | 323 | VK2JZ | 61 | 263 |
| VK6RU | 2 | 313 | VK2ADE | 65 | 239 |
| VK5AB | 45 | 312 | VK3TL | 62 | 237 |
| VK6MK | 43 | 310 | VK2AAK | 58 | 219 |
| VK4FJ | 21 | 292 | VK6KW | 4 | 211 |

**New Member:**
VK3IT 73 103

**Amendment:**
VK4DO 20 170

### C.W.

| Call | Cer. No. | C'nt-ries | Call | Cer. No. | C'nt-ries |
|---|---|---|---|---|---|
| VK3KB | 10 | 340 | VK3NC | 19 | 286 |
| VK3CX | 26 | 313 | VK3AHQ | 79 | 281 |
| VK2ADE | 81 | 313 | VK2EO | 2 | 279 |
| VK2QL | 5 | 308 | VK3ARX | 66 | 271 |
| VK4FJ | 29 | 308 | VK6RU | 18 | 270 |
| VK2AGH | 71 | 290 | VK4HR | 8 | 262 |

**Amendment:**
VK4DO 20 199

### OPEN

| Call | Cer. No. | C'nt-ries | Call | Cer. No. | C'nt-ries |
|---|---|---|---|---|---|
| VK2ADE | 28 | 331 | VK4HR | 7 | 294 |
| VK2AGH | 83 | 323 | VK2VN | 18 | 292 |
| VK6RU | 8 | 320 | VK3NC | 77 | 287 |
| VK4FJ | 32 | 315 | VK3ARX | 102 | 280 |
| VK6MK | 74 | 312 | VK3JA | 43 | 271 |
| VK2ACX | 6 | 300 | VK3TL | 85 | 257 |

**Amendments:**
VK4DO 15 219 VK4PX 101 132

## VRC

One of the finest traditions of Amateur Radio is being carried through by the graduates of Y.R.S.—helping others just as they were helped. I would like to hear news of others but the best examples I know are John Thyrd and Roger Davis. John, formerly of Kingsgrove North High, now with D.C.A. Radio School, is Club Leader of Postal Group No. 1 and also of Clempton Park Boys' Brigade Radio Club; he has passed morse to complete A.O.C.P. —hearty congratulations to John on both counts. Roger 1RD was always a great help while at Lyneham High, often demonstrates to young people in the Davis garage (with Andrew 1DA), conducts morse practice for 2AWI on Saturday nights, and instructs classes both at Canberra Radio Society and Lyneham High. As I'm on the spot, Roger will proceed to tear a strip off me for mentioning him—but perhaps he will forgive me if I say that the mention has a better purpose than just making Roger better known. Can all club leaders at least find their own successors, and possibly a leader for elsewhere?

An interesting newsletter arrived from Howard Rider 3ZJY, new VK3 Supervisor. At least 20 clubs are now registered, including the latest newcomer—Donald High, with Bruce Weibgen as Club Leader. Two new non-club types are Geoff. Butcher and Peter Ficken at Murrumbeena High—looks like a new club there if a club leader can be found. Dr. Warwicke is forming a new club at Hamilton. The stalwart Equipment Officer—Val Barnes—has had a spell in Heidelberg Repat. Hospital but is home and we hope will soon be fully recovered. A generous donation of transistors from Fairchild has been distributed. My view is that club leaders should not hand out, haphazardly, such items as transistors (easily damaged and moderately costly). They should be on a written list to be accounted for and should only be supplied for a finished piece of construction (having been earmarked for that person). Transistor sockets are not a bad idea.

VK2 news is just as encouraging as ever. A most important item comes from Mr. Dick Smith, Physics Lecturer at Sydney Teachers' College. The 1966 membership is an entirely new group of 27 science students studying for Dip. Ed. The 1965 membership has been allocated to schools and at least some of them will follow the lead of the 1965 Club President, Maurice Colman, who has already started a club at Meadowbank Boys' High. The S.T.C. club has been given the 100 Kc. crystal donated by Pye. Brother Lee Kinsella VK2AXK has lectured to 30 teaching brothers on the advantages a school gets from Y.R.S. Don 9DR, of Christmas Island, has two successful for Elementary—Sket Koon Mun (apprentice at the radio station) and Chiah-Ah-Ying (at telephone Exchange). Mona 2AXS has two successful P.G. Elementories in Jill Trewhella (following in father's footsteps) and Don Cullen. Another Westlakes R.C. member in Col Christiansen has passed full A.O.C.P. and is now VK2BCC—congratulations to Col and to prolific Westlakes with Keith 2AKX in charge. Donations have come from Mr. Waller of Lindfield, Milton 2LI, Alex 2TG, General Accessories, Commonwealth Electronics, Stan 2ZRD, Harold 2AAH, Mr. Streatfield of Kingsgrove, Mrs. Nott of Kingsgrove—and we don't know all of them. It all shows heartening appreciation of Y.R.S.

Unlike PS (where is my wandering friend?), I must not ramble on. Who said to look up "wandering" in the Concise Oxford?

73, Ken 1KM.

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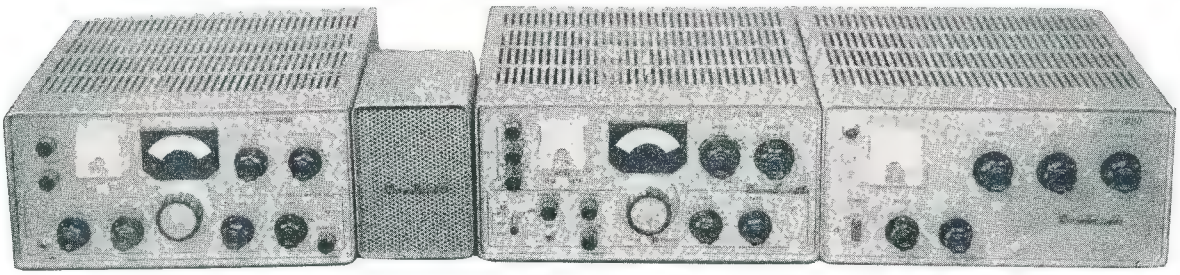

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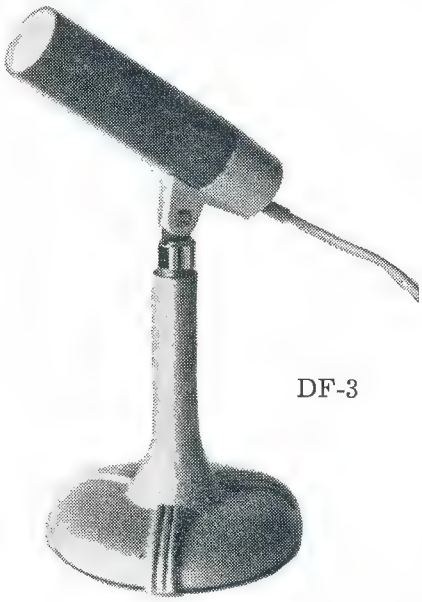

DF-3

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# VHF

Sub-Editor: CYRIL MAUDE, VK3ZCK
2 Clarendon St., Avondale Heights, W.2, Vic.

Well its news time again and not much has been received from the other states. I would like to remind correspondents that as from this month news must reach me no later than the 27th of the month. Where possible it would be appreciated if the news is written (preferably typed) on the standard size sheet as illustrated in "A.R." some months ago. If you must write the notes in longhand please PRINT ALL NAMES AND PLACE NAMES.

News items have been received from VK4, VK5, and the Hunter River Branch of VK2. Cyril, VK3ZCK.

### HUNTER RIVER BRANCH OF VK2

**52 Mcs.** This band is quiet except for our local net, each Saturday and Sunday mornings at 10 a.m., when new chaps try out their new convertors, or transmitters and local rag-chews. New chaps who are on the way to join the "Weird Mob" on 6 metres are Frank VK2ZFX, who has a converter going and Jordon VK2ZSG, who after some years has at last got a converter going, if he takes as long to build his transmitter as it took him to build his converter we cannot expect to hear him on 6 metres before 1970. Bill VK2ZWM has built a combined rig for 6 and 2 metres using a QVO4/7 with a common modulator power supply and works very well on both bands.

**144 Mcs.** This band is also quiet but one can usually have a QSO with someone, some are building gear for the summer months, or sitting beside the fire. Most active are VK2ZKW, ZWM, XZFX, ZSG, ZMO, ZUB, ZFR and others when time or mood permits.

Gordon 2ZSG, the "Admiral" ot you, "Torpedoed and Sunk" himself some weeks ago trying to find the 2 metre band, to relay our "Hunter Branch" Station AWX from 3.5 Mcs. to 144 Mcs. for our weekly broadcast, Gordon now does a very good job of the relay.

Barry VK2ZUB is recovering after a series of minor accidents during the building of a model aeroplane of the radio-controlled variety. But he has not stopped building, he is working on transistor converters for 144 and 432.

Kevin VK2ZKW (Kilowatt Kev.) is causing much consternation in shacks around Newcastle when he switches on his final. Complaints have been received of burnt out front ends, S meters with bent needles and open circuit voice coils on speakers, the boys are threatening to retaliate soon. 73, VK2ZMO, V.H.F. Liaison Officer, Hunter Branch, W.I.A.

### VICTORIA

Activity on both 6 and 2 metres has been spasmodic over the past month. 6 metres is still quiet except for Saturday and Sunday during the mornings. 2 metres has had some shocks, first of all a station north of Melbourne claiming to be JA1ATE Maritime Mobile, 35 miles north of Launceston (about 40 miles from the sea), then a very good opening to Adelaide, a general opening to VK3 country districts, East VK5 and South VK2 and only the other day a day-long opening to Northern Tasmania.

The V.H.F. Group meeting featured a series of talks on v.h.f. hilltop sites in Victoria. About 30 hills were mentioned giving location, accessibility, and areas served. Mention was also made of other services which used the site and the interferences which could be expected from these services.

The 2 metre fox hunt was a bit of a novelty when the fox, Peter VK3ZAV, produced his 2 metre fox hunt transmitter, transistorised and running a full 800 milliwatt input, frequency modulated by a 1 Kc. transistor audio oscillator. Although at times he could not be heard most of the hounds managed to find him. Some showed disgust when, only 100 feet from the transmitter, their snooper antenna would not hear him. So in future chaps put a discriminator in your snooper set-up. The only other news is that the V.H.F. Convention Committee is busy planning and plans to hold events for both h.f. and v.h.f. participants, also XYL's and YL's and harmonics. Cheerio, 73, Cyril VK3ZCK, VK3 V.H.F. Group Publicity Officer.

P.S.: Does any other division have their Sunday Broadcast simultaneously on 70 cm., 6, 2, 80, 40 and 160 metres? We do.

### QUEENSLAND

Contrary to what was anticipated last month, June has produced high activity on the v.h.f. bands in VK4.

**6 Metres.** Sunday morning is the time to hear 52 Mcs. signals on the band. In the past few weeks as many as 16 stations have been operating. Most notable signals have been those of VK4ZLG, VK4ZTW and VK4ZCA. Tom VK4ZAL is finally about to get his taxiphone going again, it's certainly been some time since Tom was on 6 metres.

The 6 metre transmitter hunts have been proving very successful with a turn-out of about 10 cars. Loaded beams or D.F. loops have proved useful in finding the hidden transmitter. However, some cars have been led astray. David VK4ZDF is known as the side lobe chaser.

Some minor openings have occurred. In the third week of June, VK4ZAT heard a few VK3's but was unable to work any of them.

**2 Metres.** 144 Mcs. is producing some good country QSO's. VK4ZMC, VK4ZKC, 4ZCA, 4CP and 4ZWB have been active working Brisbane stations regularly. Sunday or Wednesday evenings is the time to hear the main 2 metre contacts. In town recently were VK's 2ZRQ, 2ZOG, 2ZKH. Most will remember 2ZKH under his old call sign of VK4ZKP. In passing, I have noted a few requests that Bert VK4CP should either clean his present crystal or buy a new one. Bert's present frequency is 144.2 plus, minus 40 Kc.

**General News.** The V.H.F. Group formed in Brisbane many years ago has until now been officially unknown to the W.I.A. (Qld.) Division. It seems likely that the group will soon be officially recognised by the division. The V.H.F. Group meets on the third Friday of every month in the rooms of the Brisbane Institute of Social Services, Berwick Street, Valley, at 8 p.m.

Transmitter hunts starting from River Terrace, Kangaroo Point, at 8 p.m., are held on the Friday after the W.I.A. general meetings.

At the April Federal Convention of the W.I.A. a motion was tabled seeking full participation of "Z" Licences in the R.D. Contest. The VK2 delegate was given an assurance that the participation of "Z" Licences would count in the determination of their states score in the contest. However, it seems that this year the v.h.f. section is still included on the grounds of an experimental basis. However, many VK4 stations will be operating and will be looking for a possible opening to the southern states.

73, Peter VK4ZPL.

### SOUTH AUSTRALIA

The news of the moment for VK5 is that the 6 and 2 metre beacon transmitters are close to being on the air again. The problem of obtaining a suitable weatherproof, dustproof, tamper-proof and Amateur-proof cabinet in which to house the beacons has at last been solved. Due to the resourcefulness of Eric 5ZDQ and Rick 5ZFQ the ideal container has been obtained, and is at this moment undergoing final preparation before installation on the the Channel 7 T.V. Transmitter site. To coincide with the re-introduction of this Australia-wide service to v.h.f. Amateurs the antenna installation is also undergoing a major refit. For 6 metres the turnstile is being rebuilt, and for 2 metres a cloverleaf or "big wheel" (depending on which college you attend) is to be used instead of the previous stacked turnstiles. Bob 5ZDX is supervising the project and is receiving tremendous support from the usual active participants of the v.h.f. art in VK5. No date has been estimated for the completion of the re-installation, however, now that work is well under way, the big day for re-commencement of transmissions by VK5VF is quite near.

Six metre activity of late has been on the increase due to the arrival of several new stations. The more recent stations have been Graham 5ZRJ at Balaklava, Tim 5TJ from Clare and Ron 5ZRW from Lyndoch.

Pat 5KM at Victor Harbour has also returned to 2 metres. Pat has rebuilt his shack on a hill that has been referred to as a "v.h.f. operators' delight." From reports to hand it would appear that Pat's efforts have been well rewarded, especially into VK3 and the south-east of VK5. An interesting comparison on mode reliability has been well afforded recently by the change to s.s.b. from a.m. by Herb 3NN. Noted observations at this QTH have substantially proved the advantages that are available by using s.s.b., in that the readability of Herb's signal has been markedly increased.

Further to last month's notes when it was quoted that the T.V. Group had a colour television working, we have to report this month George 5ZEY has completed a 3-tube Vidicon Colour Camera. Although I have not personally viewed the results, I have been told that the colour reproduction produced by the closed circuit system is comparable to commercial equipment. Enthusiastic over the results obtained with this prototype unit, the t.v. group are planning to construct another receiver and 3-tube Vidicon camera, so that their Royal Show exhibit this year will be a real eye-opener to the general public. 73, Colin 5ZHJ.

### WESTERN AUSTRALIA

The main activity here has been the Field Day on the 21st May. Among the portable stations participating were VK6's LK, ZDB, ZCN, ZAG, MM, QJ and ZFJ. Logs were received from five stations, the winners being: A.M.: Charles VK6LK with 2852 pts. F.M.: VK6ZDD with 1242 pts. It was decided to hold another Field Day in the near future. Extracted from the VK6 Newsletter.

☆

## Publications Committee Reports That . . .

At the July meeting correspondence was received from VK's 2ADA, 2ZFB, 2QL, 3ABC, 3AKZ, 4DU, 5YB, 5NN, Sec. VK4 Division and 3DL/W5. A short technical article was received from VK2AKC.

Some Divisional notes did not arrive on or before the fifth of the month. As this was the first time notes were required by the fifth we waited for three extra days, but some notes have still not arrived.

The setting of the Call Book has been commenced. As this is the first complete reset since the Call Book was first published, an early start was necessary. The committee suggests that all Amateurs check their address in the current issue and if not correct advise the P.M.G.'s Dept. and the Publications Committee IN WRITING immediately. No alterations can be made otherwise.

Other matters considered were advertising rates for "A.R." and the Call Book, the budget for 1966-67, and the delays in delivery of "A.R." over the last few months. This last matter has already been discussed with the mailing service and an assurance received that this matter will be rectified, but we will have to co-operate by getting the magazine to the mailing service by the 25th of the month.

### V.H.F. CONVENTION

The third Annual VK3 V.H.F. Group Convention will be held over the weekend 8th and 9th October, 1966. The Saturday events will be held in an eastern suburb of Melbourne and the Sunday events in the Mornington Area.

For further particulars write to V.H.F. Convention Secretary, Peter Wolfenden VK3ZPA, P.O. Box 36, East Melbourne, Victoria.

### KNOWN V.H.F. NET FREQUENCIES IN USE IN AUSTRALIA BY 10 OR MORE STATIONS

VK2: 146.00 f.m., 145.854 f.m.
VK3:145.854 f.m., 146.00 f.m., 146.146 f.m., 53,032 a.m., 52,525 f.m., 144.5 a.m.
VK4: 53.032 a.m.
VK5:53.1 a.m., 146 f.m. (being formed).
VK6: 52,656 f.m., 52.525 f.m., 52,765 f.m., 52-947—repeater, 145.00 a.m.
VK7: 53.035 a.m., 144.1 a.m.
The approximate total of stations on 53.03 is close to 100 shared between VK3, VK4 and VK7.

### REMEMBRANCE DAY CONTEST RULES REMINDER

**Date of Contest: 13th and 14th August, 1966**

Crossmode operation is permitted.
Log times **MUST** be in G.M.T.
Complete Rules in June Issue.

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### OLD-TIMER ACTIVE AGAIN

VK4DU, J. K. McCarthy, is ex-VK3FX and is re-entering Ham ranks after an absence of 12 years.

VK3FX first went on the air in 1930 with a 45 Hartley Osc. as Tx, and det. and 2 audio (all UX201A's) as Rx operating on 40 and 80.

In early '30's he was operator of 3RI on 215 metres on Sunday mornings—this was in the days when Hams were permitted limited operation on the broadcast band.

He joined the permanent R.A.A.F. in 1936 and retired in 1964 Squadron-Leader with D.F.C., A.F.M., and an Efficiency Award. He was navigator and wireless operator of Lancaster G-ASXX, the last flying Lancaster, which was flown from Surfers' Paradise to Biggin Hill, U.K., in May last year—arriving on 13th May to coincide with the opening of the International Air Fair.

He now owns a power cruiser in which he intends cruising Barrier Reef waters and the renewal of Ham activity will be from his vessel "Pandemonium." Operation will be on 40 metres (daylight hours only) and 80 metres at night. VK4DU also used the following calls: VK3FX, VK2IM, VK2VM, VK4FX.


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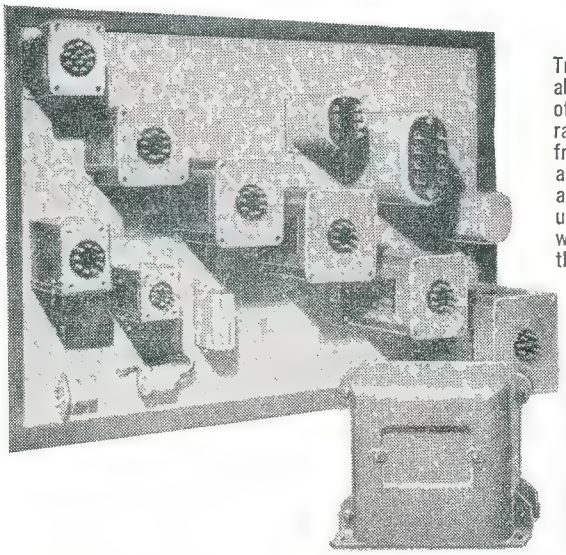

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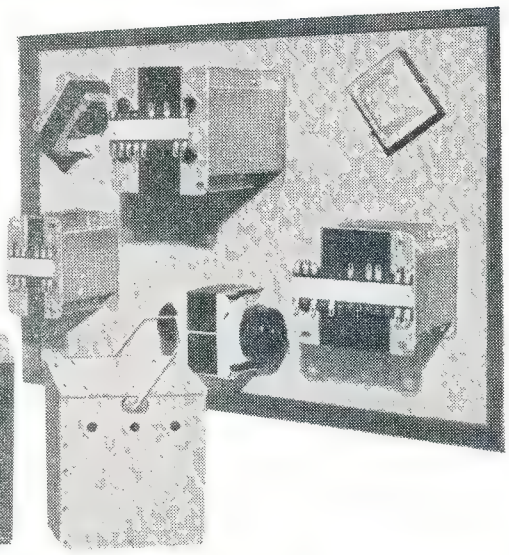

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LM 51

# SWL

Sub-Editor: D. GRANTLEY, WIA-L2022
Alexander Ave., Hazelbrook, N.S.W.

I have stated repeatedly that the W.I.A. is strictly an Amateur body, and "A.R.," as its publication should be devoted to that which the Institute stands for. However, on certain occasions an item comes to light which, by its very nature must be passed on for general information. Such an instance occurs this month, thanks to one of our VK Amateurs, Geoff VK3AMK, who reports reception on 11 metres, of stations on the American Citizens' band at 2.30 p.m. E.A.S.T. This will be of interest to most of us, and for more information, over to Geoff. "The QRM is terrific—dozens of stations on each channel but usually one or two signals predominate and are quite Q5. The time was 1430K today (one day in the first week of June) and the gear here consists of a triband 3 EL beam at 45 ft., and a Geloso 209R." Ten metres has been open to W in Sydney up to 4.30 p.m. local time, so it is possible that some of our s.w.l.'s may care to check these two bands during the afternoon. Thanks, Geoff, for your interest in letting me know of this event.

It was a pleasure to renew acquaintance with former secretary of the VK2 S.w.l. Group, Gerry Albeck, when a letter arrived from him this week. Gerry is now at Woomera, and is QSL manager for VK5WC, the club station of the Woomera Radio Club. S.w.l.'s are invited to send reports on reception of this station to Gerry at Box 1, Woomera West, S.A., but please make them comprehensive, and not just reports of CQ's and tests. A 4c stamp if enclosed will bring a reply direct, otherwise all reports will come back via the bureau. For the interest of other listeners, Gerry encloses a list of his gear. A.W.A. TZ617 BC348M/BC453, and an AR88 which, together with his Braun T1000 fed from 20, 25 and 31 metre dipoles and a long wire, provide plenty of variety.

### DX NEWS

OX5AC reported from Thule on 21 Mcs. KC6BO is West Caroline whilst KC6BW is East Caroline Is. (see DX notes). FB8YY is on Adelie Is. I pass this item on from "Monitor." VE4OX is QSL manager for the following: CR7GF, DU1MR, JY1AU, TU2AU, TU2AU/5U7, VP2SJ, ZD5R, 5U7AC, 6O1AU, 9L1HX and 9Q5HD. VE4OX requests all s.w.l.'s to enclose S.A.S.E. or I.R.C.'s, as he cannot reply through the bureau. This is a reasonable request, as he acts free of charge to DX-ers. EL2A is C/o U.S. Embassy, VOA, Monrovia, Liberia. CR5SP on 21 Mcs. from Sao Tome. The following are listed as new members of the I.S.W.L., and QSL's can go for certain via that Bureau: YV5BZ, W7AS, WA0GYQ, WB2PCF, WA5GLC, GW3TOB.

### AROUND THE SHACKS

Alan L6029 operating on 20 metres logged CE6CQ, CP5DK, OA4QW, XE1IR and YV5BQF. Bryan L6028 on 20 metres scored OH1AA, IT1FZZ, KZ5PW, VQ8AH, FW8RC and UP2KNP. Geoff L6030 snared OX3JV, EA1GH, HB9FU, XE2BBM and UC2BF. Inward cards at the QTH of Bryan were OE8KI, PY3PH, VS6AJ, KZ5PW, ZS6BGJ. Back to VK5, where we look at the log of Gerry L5053. On 14 he heard KG6IG, OA4KY, XW8BM, KG6APD, K3SWW/KG6, 4X4FQ, VU2CK, MP4BCC, FW8RC, CN8MT, CT1PK, 5A4TK, IT1CFN, 5W1AZ, plus enough others to fill this column. On 21 Mcs. he logged many JA's plus BV1USA. Mac Hilliard has been concentrating on 10 metres and logged JA's and KR6 at 4.20 p.m.

Eric L3042 has had a quiet month, due to the fact that he is about to go on a tour in the course of duty, this to be followed by annual leave. He logged BY9SX and VE6WR on 14 Mcs., DL0KH/P, UF6PK, GI3OQR on 7 Mcs., and W8NBK on 3.5. Inward cards were HP1BR, VK0MI, VR5AB, VS6BJ, YV5BZH/6, ZC4TX and 4U1ITU. 253 cards have actually been received by Eric this year, these from 73 countries in 33 zones, whilst 606 reports have been sent out. Total log entries now passed 302,000. A note from Greg Earl (now L7139, 32 Hampden Road, Battery Point) tells of good conditions on 15 during the midday period, when the band has been open to U.S.A., also strong signals on 20 metres at 11 p.m. From VK7 a note from Bob Mutton that he has just received QSL's from KX6BU, OE1HGW, KJ6DA and VP7NY. Greg Johnston is QSL manager for VK0MI, and this takes most of his time, particularly when sub-standard s.w.l. reports, and the usual batch of "bulk" JA reports have to be dealt with. Please chaps, keep those reports confined to valuable information, and fact. The JA s.w.l.'s are doing a great job of harming S.w.l.-Amateur relations, and don't let us here in VK be guilty of it. Congratulations to our well-known VK3 listener, Warwick Smith L3211, on becoming the third s.w.l. to earn the W.I.A. S.W.L. DXCC award. Inward cards for the month were FS7RT, DU7SV, CT1IK, LX1CO, taking him to 133 confirmations thus equalling my score to date. Many prefixes were logged by Warwick for the month including on 20 metres: VP9, 5W1, FB8, KS6, HK4, IS1, VK0, OK1, 7X2. OE, EP3, ZS5, 5A5, etc., and on 15 metres KS6, TI2, VK9, CT1, K, VE and 6Y5. This year he has logged 155 countries. A final letter from Peter Drew before his departure to Puckapunyal tells of new confirmations in FR7ZG and VS9AAS to take his tally to 192 confirmations. Other cards received were from F2SY, F8CS, OE6HZG, OX3JV (7 Mcs.), UH8AY, UR2AR, VE1RB, VO1FB and K0BAT. Pete has not been over active this month, nevertheless he managed on 14 s.s.b. 6Y5AR, U5ARTEK, VP7NA, KZ5PW, XE1KQ, YS2JG, YS2RU, TI0STU, TG9EP, EA4BF, TI2IO, SM6CKS, OZ7JK, KP4AST and LA5KG, whilst on c.w. ZL1AOV/P (Cocos), CO8HB, 4X4, JR, HI8XAL, UW8LL were logged. On the other bands Pete heard only W's on 7 and 21, whilst VK9XI was heard on 3.5 Mcs. Here at L2022 I have had one of the best months on record for several years. 20 metres peaked here on 19/6 when HI8XAL, VP9EP, OX5AC, ZD8J, CR6EI, ZS6AND, VP9BO/P were amongst those logged. Others for the month on this band on c.w. only were VQ9BC, FG7XX, VP2KJ (Nevis Is., QSL via W2EVV), 5N2AAW, CR9AH, EA8FE, GC2FMV, VU2DIA (Andaman) and ZS5UP. It was unfortunate that many of these were working Sydney DX men, thus reports from here are of no value, and will not therefore be sent. Best signal on the band was without doubt from Jim VK6RU on 19th, whilst the most important was VP2KJ which took me to 297 countries heard.

I note that 7 Mcs. can still produce some really fine DX in the early hours, that is if you can do battle with the QRM. YU3, OE, YO, UA6, UL7, UC2, UA1, DL, KP4, FB8YY PJ3 plus many W call areas were logged on this band in the c.w. segment. Finally over to Ernie Luff L5080, who with 78 confirmations is right on the trail of the leaders. His 20 metre log is a DX man's dream, prefixes such as KG4 KP6, KJ6, KL7, BV1, ZSL, YV5, EA1, OH0, FB8, HM2, OD5, ZS2, KC4, OE, HR1, EP ZS6 and 9M6 being just a few. Inward QSL's for the month were: GW3OCD, ZL5AA, KS6BR, KH6BB, G2PU, KJ6CF, plus quite a number of Americans.

### BAND CONDITIONS

There seems to be increased activity on the higher frequency bands from all states, particularly on 15 metres in South and West Australia. 10 metres has been open as late as 4.30 p.m. local time, in the Eastern states, whilst the c.w. portion of 7 and 3.5 are alive with signals in the early hours of the morning when the Europeans are coming in 589. Seven Mcs. also still provides a lot of late afternoon and evening DX to the American continent, both on s.s.b. and c.w. The problem of commercial QRM makes copy extremely difficult unless one uses a first-class RX.

### R.D. CONTEST AND THE S.W.L.

In writing out the VK3 Divisional notes the subject of participation in the Listeners' section of the R.D. and other contests by former s.w.l.'s who now hold their L.A.O.C.P. again came to mind. In the past there have been cases I believe, where some of these chaps have entered the s.w.l. section. In all respect to our good friends who hold their L.A.O.C.P., we must draw attention to Rule 1 of the Receiving Section, "This section is open to all Short Wave Listeners in Australia, but no active transmitting station may enter." This is not an unfair rule, particularly as the v.h.f. men have their own section this year.. If you as a L.A.O.C.P. holder have any doubts about the eligibility of your station in the R.D., I suggest you contact Jim VK6RU for an official ruling while you still have the chance. I am sure all the groups, plus the contest committee desire as much listener participation in contests as possible, but it would be rather demoralising to spend 24 hours in scoring a thousand or more points, then have your log disqualified. Whilst on the subject of the R.D., somebody once complained about such club stations as the VK3 group competing against the individual operator. I cannot recall offhand who mentioned this point, but Rule 5 in the RX section assures us that this is not so, and that the Club stations are not eligible for the "Single operator" award. How many s.w.l.'s enter these contests complete with penciller, log-keeper, tally checker, and somebody to check if stations have been previously logged.

### DIVISIONAL NEWS

From Ian Woodman on behalf of the VK3 group, "Our congratulations once again go to Robert Halligan, this time for obtaining highest score in the 1966 John Moyle National Field Day, VK3 also got 3rd place with Eric Trebilcock who was only 240 points away. The second edition of the group's newsletter "Zero-Beat" has been made available, we trust you have not forgotten to send your donation so that all future copies will be sent to you. The May meeting of the group was once again a full house, extra interest being a row of YL's as a result of the group's publicity in a Melbourne newspaper. At the June meeting we saw VK3WI, the Victorian Divisional Station, thanks to Bill Roper.

### VK2 NEWS

Per the 600 ohm line from Chas. Aberneathy, we learn that the next outing of the VK2 group will be a visit to the O.T.C. at La Perouse. This will be held on Saturday, August 6, and for further information contact Chas. or your secretary. Attendances are on the increase at the meetings, and to encourage this, a film will be shown at each meeting night, sharp at 7.30 p.m. This is the 3rd Friday of the month at Institute Headquarters, and the films are being supplied by Mullard. I must apologise to the VK2 group for my inability to attend any of the group activities, but shift work together with a 70-mile trip rule this out.

### ELIZABETH RADIO CLUB

For those listeners who are making the effort to gain the Elizabethan award, Ernie Luff wants you to know that the weekly club round-up has commenced again as from June 20 on 80 metres. Timed at 8 p.m., the first get-together comprised seven stations, including the Club station VK5LZ, which counts as two points towards the award. Don't forget this one chaps, but once again make your reports worthy ones, and remember the time, 8 p.m. on Mondays using the 80-metre band.

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# Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

## RECIPROCAL LICENSING

Editor "A.R.," Dear Sir,

I noted with interest the announcement on page 21 of the June issue of "A.R." that VK3ZGG had been issued with an F.C.C. permit to operate in this country under the Australia-U.S.A. reciprocal licensing agreement.

However, for the record, I would like to point out that this was by no means the first such permit issued, there being at least two earlier ones to my knowledge.

I believe the first one issued was to me and was dated August 25, 1965. I attach a copy of this for your information. This was just two months after the formal exchange of notes between the two governments.

Shortly after mine was issued, VK5RN, David Robertson, obtained his and he has been active from Long Island, N.Y., although I believe he is returning to Adelaide shortly.

I am active on 14 Mc. and always looking for VK contacts. I keep on or around 14,075 c.w. and 14,205 s.s.b. particularly during the week-ends between 0400z and 0600z.

Best of luck to the W.I.A. and "A.R."

—D. J. Medley, VK3DL/W5.

## NET OPERATING PROCEDURE

Editor "A.R.," Dear Sir,

It is very disappointing to hear the lack of Amateur spirit displayed on a net frequency one Saturday afternoon (11th June, 1966).

I agree that long overs without breaks is thoughtless but this does not give other band users the right to broadcast their direct criticism.

If it is essential for fixed stations to radiate their kilowatts on mobile net frequencies then they could firstly try clearing the channel by tactful use of the telephone and as a last resort make official complaint through the W.I.A. It is very embarrassing to listen to the exchange of heated retort on the air.

Those Amateurs who are so impatient and ready to criticise others should take time out to hear a recording of their own procedure to see if they have achieved a standard of perfection which enables them to sit in judgment of their fellow Amateur.

I suggest that all net operators read or reread an excellent article by Cyril Maude, VK3ZCK ("A.R.," May, 1966, p. 14).

—David Voight, VK3ABC.

# FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

## FEDERAL

The last meeting of Executive was held on the 23th June, and apart from considering the minutes of the last few meetings and quite a large agenda, dealt with items such as the appointment of an I.T.U. Representative and the handling of magazine subscriptions by Executive. Work is also on the way on the proposition of a case for novice licensing.

### AUSTRALIS PROJECT

From information received it appears that work is proceeding satisfactorily, although a meeting to be held early in July will clarify the situation somewhat. It does appear that there is quite a deal of interest, not only in Australis I, but in some future satellite, and Executive felt that whilst it is in order to begin thinking of such a project, all efforts should be directed towards satisfactorily completing the present project before any activity is undertaken on a second venture. It should be realised that a second attempt will be more expensive than the first as equipment will have to be more sophisticated for one thing. At the present stage, the Institute will not be considering any future requests for making any policies in this direction until Australis I is off the ground.

### I.T.U. REGION 3

Unfortunately, Harold Hepburn, Vice-President, was unable to be present at the meeting, but he did submit quite a list of ways and means of obtaining finance for a Regional Conference which we feel it is desirable to hold before the next I.T.U. Conference. This matter will be again on the agenda for the next meeting of Executive, and the fuller details in the minutes can be obtained from your Federal Councillor. It is sufficient to say that some positive thinking has to be done as well as implementing various schemes to raise the necessary money. However, letters have been written to all member Societies in Region 3 in an effort to start, through correspondence, an exchange of ideas and of problems so that we have, at least, a working basis for future discussions.

### RATIFICATION BY DIVISIONS

The voting of all Federal Councillors at the last Federal Convention in Brisbane has been ratified by their Divisions with the exception of N.S.W. As soon as an indication is given of agreement to the minutes as presented, work will proceed on the new Federal Constitution.

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## FEDERAL QSL BUREAU

The Ravenna Radio Club (Italy) organised a field day from June 25/27. Their station was situated on the five miles off-shore iron island of Sarom Refinery and the station signed iD1IDA on 3.5 Mcs. to 28 Mcs.

The Municipal Commission de Turismo at Aveiro, Portugal, has made a nice award available to Amateurs contacting two Aveiro stations on any band after 1st January, 1966. Full details from this Bureau.

The N.R.R.L. (Norway) established a club for delegates attending the C.C.I.R. Conference held in Oslo during June and July. A club station was installed, working c.w. and s.s.b. on all bands with the call sign LA1ITU.

The 4th Annual Illinois QSO Party, sponsored by the Illinois C.H.C. Chapter No. 17, is scheduled to take place from 16Z August 6 to 22Z August 7. Exchanges are Number, RST, State and Country. Each QSO counts one point and multiplier is the number of Illinois countries worked. Awards to the highest scorer in each country. Logs to K9EAB, post-marked 1st September or earlier.

A few copies of the rules of the 12th European DX Contest, staged by the D.A.R.C. and scheduled as under, are available from this Bureau.

C.W.: Zero G.M.T., 13th Aug., to 24Z, 14th Aug.

Phone: Zero G.M.T., 10th Sept., to 24Z 11th Sept.

—Ray Jones VK3RJ, Manager.

## NEW SOUTH WALES

Although the attendance was down at the June meeting of the N.S.W. Division of the W.I.A., held at Wireless Institute Centre, Crows Nest, on Friday evening, 24th, those who were there had the pleasure of listening to one of the most interesting — and certainly the most humorous—talks it has been our pleasure to hear.

President Tom O"Donnell VK2OD occupied the chair and introduced Mr. K. Langford-Smith, who, with his wife, conducts the Marella Mission Farm for Aboriginal Children at Kellyville, on the north-western outskirts of the Sydney metropolitan area.

Incidentally, Mr. Langford-Smith's only connection with Amateur Radio is that his brother was the editor of the Radiotron Designers' Handbook, well known to most Amateurs.

The lecturer had been a medical missionary in Arnhem Land for several years from 1928, when conditions in that part of the world were decidedly "wild and woolly," and had pioneered the use of aviation in the first flying medical service in that area. Over the years, communications ranged from aboriginal message-sticks, homing pigeons, to pedal wireless, and transport from camels, model T Ford, to an old Gypsy Moth aircraft. The latter was often repaired with bush timber, nuts and bolts from the Ford, and at one time the fabric was patched with the lecturer's shirt.

For an hour the audience was regaled with anecdotes that produced frequent bursts of laughter, and later the President, as well as the mover of the vote of thanks (Ivan Agar VK2AIM), both expressed the feelings of those present by hoping that we would have the pleasure of hearing Mr. Langford-Smith again.

The Federal Councillor (Pierce Healy VK2APQ) submitted the minutes of the recent Federal Convention, held in Brisbane over Easter. Pierce detailed the main sections of the minutes, after which they were received by the meeting and left to Divisional Council to deal with. The most controversial section of the minutes dealt with the proportional voting by Divisions in connection with the proposed Federal Constitution, and the meeting was informed that the Constitution Committee would be discussing this matter in the near future.

Eleven applicants were admitted to Institute membership, as follows: Full—K. B. Brown, R. Waller VK2ZZR, T. Olrog VK2TO, P. L. Buchtmann VK2ZDF; Associates—R. L. Knight, B. North, G. Hines, C. Mackie, H. D. Lindell, M. Caratti, F. E. Aveling. With VK2 Divisional membership the highest on record, almost reaching 1300, it is unfortunate that approximately 100 names have had to be deleted from the roll because of failure to come forth with the necessary subscription. This means, of course, that these tardy characters will now lose all benefits of membership, and, once lost, these take some time to become organised again.

Overseas visitors welcomed during the evening were W6YFE and W6WPH, while several of our Hunter Branch friends also made the trip down.

The sympathy of all members was tendered to Don Miller VK2GN in the loss of his 19-year-old son, Robert, a member of the Royal Australian Navy, who lost his life in a car accident in Brisbane during the month.

The chairman informed the meeting that Cyril Henderson VK2CH had been co-opted to Council to fill the vacancy caused by the resignation of Kevin Collins VK2ANY. Council was now up to its full strength of seven members.

Councillor Stan Dogger VK2ZRD has been appointed Communications Officer, and would like to hear from anyone willing to act as Duty Engineer for the Sunday broadcasts at VK2WI. His telephone number is 55-1383.

Harold Burtoft VK2AAH, Education Officer, said that during the month he and Sid Molen VK2SG had combined in a fixed station/mobile Amateur Radio demonstration for the benefit of the Pendle Hill Church of England Men's Club, and this had been very successful and much appreciated by the club members. Harold also gave a pat on the back to the organisers of the Penrith District Radio Club's field day, held during Queen's Birthday week-end. Although in existence for only three months, this club had made an excellent job of running its first function. A full report of this event appears elsewhere in these notes.

It would appear that a decision of last year's Divisional Council—to provide a memorial library with funds donated by the late John Peehl VK2WJ—should have become a reality by the time these notes appear in print. The President reported that he had obtained a suitable quotation and the work would commence almost immediately. The cabinet will have lockable, sliding, plate-glass doors ,and this will enable members to see what is available, at the same time ensuring that books and popular magazines will not be removed by "cotton-pickin' fingers" during the absence of the librarian.

Sid Molen VK2SG, QSL Officer, reported that 1780 cards had been received and 3240 dispatched for the month. This number of outwards cards was the greatest since 1958.

During a short break in proceedings at the meeting, Phil Irvine VK2ZPI showed a film of the last combined VK4/VK2 "Famfest," held at Kingscliff, near the border. This film had been shown on t.v. stations in Brisbane and northern N.S.W., and was sent to us by Eddy VK2BB. A similar combined family gathering is set down for 20th November next, and it is to be hoped that it will be even more successful than the last one.

Old-timers were pleased to see Dick Dowe VK2RP at the June meeting. He had been inactive for about 12 years and celebrated his return to the fold by winning the monthly competition for the overseas callbook. Dick held the office of Divisional Secretary for a time, in the days when our meetings were held at Science House.

The executive of the Institute of Radio and Electrical Engineers recently advised that they were making a donation of a large number of "CQ" and "QST" magazines for our library. This is a very generous gesture and merits the thanks and appreciation of all members.

While on the subject of donations, our Morse Tape Service has issued an appeal for used tapes in good condition. Anyone wishing to donate tapes to this popular and worthwhile service is asked to send them to the Supervisor, Ern Hodgkins VK2EH, Mangrove Road, Narara, N.S.W., or they may be left at Wireless Institute Centre, 14 Atchison Street, Crows Nest.

Reference was made to those who had returned creditable results in this year's John Moyle Memorial Field Day Contest. Arthur Mead VK2JM had the highest c.w. score for a six-hour period; Jan Oosterveen VK2BJO, David Russell VK2BSC and Susan Brown VK2BSB, working under the call sign of VK2ATZ/P, received a Merit A award for highest score in the low power, multi-operator section. Then, of course, we have those busy "bodies"—Harold Burtoft VK2AAH, Sid Molen VK2SG, Mac MacMaughton VK2ZH, David MacNaughton VK2ZVW, Laurie Cartwright VK2ZJC, Brian Anderson VK2AND, Dick Norman VK2ZCF, Al Williams VK2ZAL—who between them amassed the score of 3969 points—the highest on record for a 24-hour period. We heard on the grapevine that Laurie Cartwright, being the only bushman in the group, was No. 1 Boy when it came to hoisting v.h.f. antennae into position, and that much of the success of this part of the operation was due to his efforts.

One of the main events in the VK contest calendar, the Remembrance Day Contest, is with us this month, on the 13th and 14th. May we urge our members again this year to get into this event and be sure to enter your logs. If your Division is to have any chance at all, it must have more support from its members than has been the case in the past.

### VK2WI ENGINEER COMMISSIONS COASTAL RADIO STATION

For several weeks between April and June the early morning 80 metre net, known as the Goon Show, was without one of its regular stalwarts. We refer to Bill Jenvey VK2ZO, otherwise known as "Willoughby Will." Apart from his affiliation with the Goons, Bill is a

### SILENT KEY

It is with deep regret that we record the passing of:

VK3XD—Dick Dowling.
VK6RW—Bob Muir.
VK6ZBF—Rodney Burke.

well-known c.w. operator, and nothing delights him more than an excuse to "pound the brass," He is also on the panel of engineers who assist at VK2WI broadcasts.

Before his retirement in 1964 from the position of Chief Engineer of Overseas Telecommunications Commission, Bill had recommended that a new coastal radio station be erected at Cape Schanck, Victoria, to house VIM, which was being operated from Melbourne, with receivers at Rockbank and transmitters at Fiskville. As a result of his report on this project, he was brought out of his retirement to commission the new station, and it is pleasing to report that his efforts have been crowned with success.

Bill's recommendation had been that a move nearer the coast would give a much better signal coverage for shipping in this area, and this had now been proved by results. The station is required to overlap the coverage of those at Adelaide, Hobart and Sydney, and excellent signal strengths have been reported by shipping throughout the area.

Three transmitters are housed in an air-conditioned building, one of these having a power of 2 k.w. into the antenna on the medium maritime frequencies, and another 1 k.w. on high frequency. The third is of 500 watts on both frequencies and is used as a standby. The station is also equipped with a diesel emergency power supply.

The main medium frequency aerial is an insulated 150 ft. steel mast which is itself the radiator, and, on the 2 Mc. band, vertical fans are used to obtain coverage of several frequencies. On high frequencies, "Wells" cage quadrants are employed, and these cover a band plus or minus 10% referred to the centre design frequency, with an s.w.r. of less than 2:1 and an omnidirectional radiation pattern.

During preliminary tests the 500 Kc. transmission was received in Auckland (N.Z.) at QSA 4, compared to QSA 1 from the location at Fiskville 60 miles west of Melbourne.

The Cape Schanck station was officially opened on 3rd June by the Postmaster-General (Mr. A. S. Hulme), in the presence of a distinguished gathering.

An interesting sidelight to this story is that Bill's father, in 1901, was carrying out experiments in radio communication for the Melbourne Post Office, and it is indeed a coincidence that his most distant contact was with H.M.S. St. George, which at the time was off Cape Schanck.

## VK2 DIVISION

This month there are a few surplus items besides the usual stock of new equipment.

One only Heathkit DX40 Transmitter kit. Ready to assemble, c.w. or a.m. (80, 40, 20 and 10 metres). $60.00

One only AR88 Receiver, 540 Kcs. to 32 Mcs. Good condition. $170.00 (or offer).

One only, Collins ART13. $60.00

Three only, Type Y1. Regulated Power Supplies, which suit BC221 frequency meters. $10.00. (The above prices f.o.r. Sydney.)

Crystals: 3720, 3760, 3800, 3885, 3990, 3995 Kc., $1 each or 5 for $4. (4 mc. range will be listed next month.)

Inquiries to Radio Equipment Store, Wireless Institute Centre, 14 Atchison St., Crows Nest, N.S.W.

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### LECTURE TAPES

These are available from the VK2 Division free of charge, except on postage both ways. A tape and slides will be sent upon request. Note the value of postage and include this value in 4 cent stamps with the tape when you return it. All inquiries to Education Officer, 14 Atchison St., Crows Nest. At the moment there are 37 tapes in the library. Each month in this column five tapes will be listed. A complete list is to be found in a copy of the "Amateur Guide" (a VK2 Division Publication).

No. 1. Transistors, 2 hours, 8 slides (VK2AAH).

No. 2. Aircraft Navigational Aids, 27 minutes, 27 slides (Peter Griffin).

No. 3. V.O.R., 1½ hrs., 8 slides (Peter Griffin).

No. 4. Phasing Type S.s.b. (s.s.b.-1), 1½ hrs., diagrams (VK2AC/VK2JR).

No. 5. Master Oscillators, 1 hr., 24 slides (VK2JR).

### AMATEUR GUIDE

A reminder that there are no complete copies of the above available at the moment. They are out of print and it is not expected that any further reprint will be made this year. Those who already have copies are reminded that the 4th sub-section will be available toward the end of this year. Watch this column. for details.

### SUCCESSFUL FIELD DAY

Overcast skies and a cold wind did not dampen the enthusiasm of those who attended the Nepean District Amateur Radio Club's first field day at St. Mary's on Sunday, 12th June. Thirty registrations were recorded, with a total attendance, including XYL's, YL's and harmonics, of 77. The Club's President (Max, VK2MP) has supplied the following information on the day's activities:

The first event was a mobile scramble, in which the contestants were allowed an hour to travel 15 miles (air-line) to the field day area. Prizes were awarded to the top-scorers in the h.f. and v.h.f. divisions, the respective winners being VK2AAH and VK2ASZ.

Four mobile events were staged during the day, a refreshing touch of showmanship being injected into these events by the introduction of a Le Mans starting procedure. The contestants were at first somewhat baffled by this procedure, but by the time of the last event were providing spectators with the sight of wheel spin, thrown gravel, etc. Three of the events were conventional hidden transmitter hunts and the one event was a continuing fox hunt.

A pedestrian hidden transmitter hunt proved that these events are very popular but are becoming the forte of the younger (and fitter) competitors. (How about an "old buffers" event at field days?)

Novelty events for ladies and children were keenly contested, particularly the ladies' events. This was a medley event, in the final stage of which each lady had to inflate a balloon until it burst, immediately after having bolted down a soda cracker biscuit!

An interesting backdrop to the day was a point-to-point communication net manned by the Penrith Civil Defence. This was the first known occasion on which the Civil Defence and the Amateur Service had co-operated so closely, this point being remarked on by the Divisional President, VK2OD, during his address.

Prizes were donated by A.W.V., Fairchild, O. T. Lempriere, Electronic Parts, Miniwatt, Mullard, Aerostat, I.R.C., Roland Grivas, W.I.A. (N.S.W. Division), and by the Nepean District Amateur Radio Club. Each registered person was presented with a folder of pamphlets and booklets donated by A.W.V. The club wishes to express its thanks to all these donors.

73, Ivan VK2AIM.

### HUNTER BRANCH

A near record was established at the July meeting of the Branch when 43 members and visitors assembled to hear three outstanding lectures on diverse topics. Ian 2ZIF continued his theme of last meeting by presenting the completed "project" converter for two-metre operation. This, Ian explained, is easily built from ice-cream cans—the chassis that is—but of course the job is just a little more difficult. Presenting a detailed circuit and constructional details he had many of the audience thinking that most of the fears of v.h.f. construction are only bogies and, if the details he described are followed, no difficulty should be experienced in getting the unit to give excellent results for the most thumb-handed of us. More will be heard of this excellent project and those experienced in techniques of the art are ready to help the new constructors who wish to have a lash at it. Ian's notes will no doubt be available on request and I suggest that you write to him at his call-book address if you were unfortunate enough not to be at the meeting. Second on the bill was Max McLachlan, who described in great detail the measures he has undertaken to soundproof and air-condition the shack at the Westlakes Radio Club. Max presented a folder of detailed drawings to assist those seeking the ultimate in soundproof comfort and was able to answer the questions of those who required further details.

Those following his suggestions should have no difficulty in putting a really first-class signal on the air. Bill 2XT was the third lecturer and he described his now famous helical whip aerials using which he has been able to make the mobile DXCC since February this year. Again with a sheet of drawings outlining all the details he told how simple it is to get a really efficient radiator for the mobile rig in little more than domestic receiver aerial size. The amount of research involved in such a project cannot be measured but it is true to say that Bill has reached a peak in perfection with mobile equipment—so much so that his signal reports are practically identical in the car as from the home station. Once again a letter direct will put you in the picture if you are contemplating high efficiency for mobile operation.

At the conclusion of the lectures, Gordon 2ZSG moved a vote of thanks to the three for their excellent presentation and this was heartily acclaimed by the audience. President Frank 2APO then performed a most pleasant function in presenting certificates recently won for prowess in both operating and construction. Colin Colgan and Philip Brown, members of the Youth Radio Scheme, were handed their Elementary Radio Certificates while Susan 2BSB accepted the John Moyle Memorial National Field Day award for the winning low power field station which was jointly manned by herself, Jan 2BJO, David 2BSC and Paul Linsley during the contest week-end. These young people deserve special praise for their efforts with relatively primitive gear especially when one considers that the battery charging was accomplished with a motor mower coupled to car generator. This power source served both transmitters and the lights at VK2ATZ/P on the heights of Mount Munibung, near Cardiff.

Some rarely heard calls have been on the air during the month and the DX watchers have reported hearing Allen 2KB, George 2AGD and Harry 2AFA working on bands 20 to 80 metres. George has a fine sideband signal while Allen uses c.w. to talk to DX contacts and Harry makes do with a.m. phone on 40. Jack 2KQ has been forced to go QRT while he takes a spell in hospital and all members wish him a speedy recovery and a return to the duck talkers' brigade. Les 2RJ now has a modern aerial from the U.S.A. to go with the new sideband rig and the Valiant so it is expected that he will be among the rare ones mobile by now. Max 2BMK, having completed the fleapower transmitter for 15 metres has had instant success and landed some W's at the first attempt. He says the report was 5 and 7 so it looks as if the conditions of 1958 may be returning—at least briefly. As far as the coaly city men are concerned, Civil Defence is taking up much of their time and communications for the recent evacuation to Dungog were ably handled by Chris's crew. Ray Robinson has cause for jubilation in being the latest to defeat the examiners for the limited ticket and he is almost ready to go on the air when the authority arrives. One local member who must remain nameless was most pleased to learn recently that a major fault in the transceiver could be repaired with a new fuse—and was he relieved! There are vague mutterings about left-footed morse examiners since the results of the last examination and some candidates are wondering if "ability to send morse would be an advantage" was taken literally in the advertisement for staff. Don 2BAE, a visitor from afar, has his own version of the causes, so he says. Plans for the coming Spring Convention are well in hand and by all reports it should be another good one so you are advised to watch the Bulletin for the latest reports. The event will be held on the October long week-end with the Field Day at Bolton Point in the shadow of Jim's beams and almost at the end of Lionel's aerial. And to accommodate the meeting successfully an amendment has been made to September, which allows for two meetings—one on the first Friday, and another on the last. So watch the Bulletin and don't be caught! See you at both. 73, 2AKX.

# • DISPOSAL BARGAINS •

## *AT OUR BULK DISPOSAL STORE*

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|---|---|
| 50 uF. 200v., pigtail | 20c ea., $2 dozen |
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Radar type, new. Contains 36 valves—8 6AQ5, 5 6X4, 4 12AX7, OA2, 2 6AK5, 3 6AL5, 2 12AT7, 2 2D21, 6AS6, 4 2C51, 2 6J6, 6AG5, 2 6AH6. Also twin 28v. blower motor, relays, variable conds., transformers, etc. 28v. 500 cycle. Ideal for wrecking. Sorry, no further information. Brand New. $35.

### STEEL TRANSFORMER BOXES

6¼ x 9 x 5 inch with matching lid, air vents each end. Ideal for battery charger, etc. Unpainted, new. $1. Discount for quantity.

### DURAL TUBING

¼ inch Tubing. 6 ft. lengths 36 ft. for $2 or 40c per 6 ft. length.

### NEW TOGGLE SWITCHES

S.P.S.T. 5/- each. D.P.D.T. 10/- each.

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Wire Wound, 4 Watts, 1¾ inch diameter. Sizes available: 5, 10, 25, 50, 100 250, 500, 1K, 2K, 10K, 50K ohms. 4/- each.

### NEW CHANNEL LOCK PLIERS

| | |
|---|---|
| Type 337W | 20/- each |
| Type 356 End Cutters | 20/- each |

### POWER TRANSFORMERS

| | | | |
|---|---|---|---|
| 1992 | 150-0-150v. 30 mA., 6.3v. 1.75a. | 37/6 | $3.75 |
| 1993 | 225v.-0-225v. 50 mA., 6.3v. 2a. | 45/- | $4.50 |
| 2062 | Voltage Doubler, 290, 265v. d.c. 80 mA., 6.3v. c.t. 2.25a. | 67/6 | $6.75 |
| 2064 | Voltage Doubler, 340, 315v. d.c. 125 mA., 6.3v. c.t. 2.25a. | 87/6 | $8.75 |
| 2067 | Voltage Doubler, 310, 285, 260v. d.c. 100 mA., 6.3v. c.t. 4a. | 83/6 | $8.35 |
| | 290-0-290v. 60 mA., 6.3v. 2a., 5v. 2a. | 27/6 | $2.75 |
| | 385-0-385v. 100 mA., 6.3v. 3a., 5v. 2a. | 35/- | $3.50 |
| | 385-0-385v. 125 mA., 6.3v. 3a., 6.3v. 2a., 5v. 2a. | 45/- | $4.50 |

### BATTERY CHARGERS

**Dual, c/w. Meter in Metal Hammertone Case**

6 volt 4 amp., 12 volt 4 amp. . . 157/6 $15.75
6 volt 6 amp., 12 volt 6 amp. .... 217/6 $21.75

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Standard Rack. 19 inch panels and chassis. All sizes. Plenty to choose from. Personal shoppers only.

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American Precision, TV-5B, 480 Mc., 30,000 volt. Brand New carton. $8. 12 only.

### BRACKET BEZAL LAMPS

½ inch diam. Bezal in Red, Amber, Green. Suit screw type globe. 35c, 4 for $1.20.

### Q PLUS COILS

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|---|---|---|---|---|---|---|---|
| AB1 | T.V. | Balun | $1.75 | VIF3 | I.F. | Trans. | 90 |
| AC2 | Aerial | Coil | $1.00 | VIF4 | ,, | ,, | 90 |
| AC3 | ,, | ,, | $1.00 | VIF5 | ,, | ,, | 90 |
| AC4P | ,, | ,, | $1.00 | VIF6 | ,, | ,, | 90 |
| AC4S | ,, | ,, | $1.00 | VIF8 | ,, | ,, | $1.30 |
| AC7 | ,, | ,, | $1.30 | VIF11 | ,, | ,, | $1.00 |
| AC9 | ,, | ,, | $1.30 | VIF12 | ,, | ,, | $1.00 |
| | | | | VIF14 | ,, | ,, | $1.00 |
| IF14 | I.F. | Trans. | $1.30 | VIF15 | ,, | ,, | $1.00 |
| IF15 | ,, | ,, | $1.30 | VIF25 | ,, | ,, | 60 |
| IF29 | ,, | ,, | $1.65 | VIF28 | ,, | ,, | 60 |
| IF34 | ,, | ,, | $1.30 | VHO1 | ,, | ,, | 60 |
| IF36 | ,, | ,, | $1.65 | VW1 | ,, | ,, | 60 |
| IF44 | ,, | ,, | 90 | RC6 | Reinartz | Coil | $1.00 |
| IF45 | ,, | ,, | 90 | RC5 | ,, | ,, | $1.00 |

### ROTARY WAFER SWITCH

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Sealed Type

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### NEW CHOKES

7-5H. 125 mA. 30/- ea. 14 H. 60 mA. 12/6 ea.

### NEW VALVE SOCKETS

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|---|---|---|
| 832A | Sockets | 20/- each |
| 4/250A | ,, | 20/- ,, |
| Acorn | ,, | 3/6 ,, |
| EF50 | ,, | 2/6 ,, |
| VCR97 | ,, | 10/- ,, |
| 805 | ,, | 12/6 ,, |
| EA50 | ,, | 2/6 ,, |
| 5-pin | ,, | 2/6 ,, |
| 6-pin | ,, | 2/6 ,, |
| 7-pin | ,, | 2/6 ,, |
| 7-pin | P.T.F.E. Sockets | 5/- ,, |
| Locktal | P.T.F.E. Sockets | 5/- ,, |

Special completely shielded 7-pin P.T.F.E. socket and shield .... .... .... 10/- pair

### TRANSCEIVER

TR1987, English (later version of SCR522). 15 watts, 21 Valves. Freq. coverage: 115 to 145 Mc. Crystal locked receiver. Transmitter uses TT15 output valves. Three stage exciter using 4.86 Mc. crystal osc. 6AM5, doubler 6AM5, driver amp. QV04/7, p.a. amp. TT15. In-built modulator, complete with 26 volt genemotor. Condition as new. To clear £15 ($30). Circuit for above unit, 10/- each.

### NEW PLUGS AND SOCKETS

| | |
|---|---|
| Octal Plug | 3/6 each |
| Octal Socket | 1/6 ,, |
| 5-pin Speaker Plugs | 2/6 ,, |
| 4-pin Speaker Plugs and Sockets | 1/9 ,, |
| 6-pin Jones Plugs and Sockets | 7/6 ,, |
| Pye Plugs | 2/- ,, |
| Pye double bulk Chassis Sockets | 2/6 ,, |

### MODULATION AND DRIVER TRANSFORMERS

Modulation Transformer, 15 watts, pair of 6AQ5s to 2E26 valve.
Also Driver Transformer, single ended primary to push-pull grids of 6AQ5s.
£2 the lot, or Mod. Trans. 30/-, and Driver Trans. 10/-.

### SPECIAL BARGAINS

Carpenter Relay and Socket, Type 3E1, 1800T 250 ohms, 900T 200 ohms, 15/-
P.M.G. Strip Boards, containing 24 Jacks .... .... .... .... .... .... 30/- each
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Head Phone Cords, new .... .... 4/6 pair
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Mixed bags of Resistors (50) .... 12/6
P/M Fuse Holders .... .... .... 4/6 each
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### BLUE MOUNTAINS BRANCH

The May meeting of the Branch was held as usual at Lawson where we heard Bill 2HZ tell us all about the Water Board and the problems, etc., involved with the water restrictions. Bill had some slides and altogether the evening was very interesting. President Derek 2NR welcomed visitor Don 2ZRK from Wollongong Branch. Don and family were holidaying at Katoomba. After supper and the usual rag-chews everybody went their merry ways except 2TM and yours truly. It all started out with a call to a jammed cash register at Keith 2ABK's QTH. After a few minutes of poking with hammer and chisel, I realised it was a workshop job for an expert. Then Trev wondered if we might see Keith's Wurlitzer organ. Well, after seeing the wiring and considering the age, they are quite remarkable, even viewed from my computer aspect. Keith gave us a demo. which was very enjoyable. So again I had to fake my E.T.A. at home for XYL purposes.

Congratulations are in order again this month for Allen Smith as he has passed his limited licence at the last A.O.C.P. exam. His call 2ZFZ and it is understood that Allen will be up on 6 with a Pye, thence on 2. Well, with Allen through, it should not be long before Dan and Roy have a bash—how about it fellas?

Don 2ART, so I believe, has been batching whilst his family enjoyed a week in Holbrook during the school holidays. Did not hear Don on the local bands so may be you were catching up on your DX Don. By the way, as you all know, 2TM Trevor upsturbed Rickard Road on 7 Mcs. Well, my spies tell me his is going to do it again but on 2 mx and 6 mx, so wait for it! Trev has his 14AVQ working just fine, now up to 20 ft. Came the big night and my mate Roy W8LUZ gave Trev a favourable report against my G5RV so would say it is up this time for good. G5RV's—they are the greatest! Well, that should cause a four-hour rag-chew on 7 Mcs. for sure.

Bob 2ASZ has been giving some of the boys a flip while he builds up cross country flights. I understand Roy Hicks made one trip with Bob and found it quite enjoyable. Heard 2AVN on 2 mx, Ken seemed to be having some modulation trouble. I worked 2ZGW crossband, but Grahame was having trouble copying my 2 mx signals, so looks like my rig needs some long-awaited service.

The Construction Committee has erected a new antennae system for the club transmitter —noted the 2 mx rig in position at the last meeting, so dare say there will be plenty of QRM at future meetings. B.C.N.U. at Lawson, Ron 2ADA.

### CENTRAL COAST

The last meeing of the Central Coast Branch of the W.I.A. was held on June 17. There was a record roll-up for a very interesting evening with several visitors and some members we had not seen for a long time. Our President, Lindsay Douglas, VK2ON, demonstrated a r.f. probe and a Pf meter, Secretary Frank Jarvis, VK2AFJ, talked about his 6 m. converter, and associate Gordon Proctor gave a colourful demonstration of his condenser tester. The essence of all of this home-brew gear was improvisation in the true Amateur tradition. Gordon probably found the most original use ever made for an ash tray when he made it part of the condenser tester. This was a very popular evening and we look forward to having more of the same at a later stage and finding out about the hidden talent among our members.

Our meetings are always on the third Friday of each month unless an important public holiday intervenes. We are always pleased to see interstate visitors. 73, Mona.

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## VICTORIA

### COUNCIL MEETING, 27th JUNE

All Council members were present at the June meeting, which developed into one of the longest on record.

Among the items discussed was the permit to include a 432 Mc. transmission of the weekly broadcast. Cyril VK3AEE has undertaken to make this relay.

The membership drive has been organised, and the circulars will be posted early in July. Circulars on the I.T.U. fund and disposals will be sent out at the same time.

A long discussion was held on the t.v.i. which is alleged to emanate from VK3WI. It was decided that steps be taken to replace the BCC610's with more modern equipment. In the meantime, Council confirmed the decision not to make any evening broadcasts from VK3WI until the t.v.i. problems are solved.

Y.R.S. Liaison Officer, John Battrick, reported on the Y.R.S. Supervisors' meeting. Council has been asked to get legal opinion as to liabilities of Y.R.S. Club leaders, in the event of any accident involving club members while engaged in club activities.

The Instrument Librarian reported that he has completed a survey and finds that only 53 instruments out of 102 are accounted for. We hold the signatures for many of the missing pieces of equipment and those concerned are to be contacted and asked to arrange to return instruments immediately. Some instruments have been borrowed and not signed for. These items are to be sought by means of requests on the weekly broadcasts and in "A.R." Council decided that obsolete instruments will be scrapped and a range of new instruments, yet to be selected, purchased.

The minutes of the last Federal Convention were tabled. Council members will peruse these with that view to discussing them at the next meeting.

Other items considered were: Novice Licences, Slow Morse Transmissions, Correspondence Courses for the A.O.C.P., W.I.C.E.N. and the State Convention early next year.

### I.T.U. FUND

Latest donations received are as listed below: $20: VK3ADN; $10: VK3's VZ, WB; $5: VK3EG; $3: VK3's UG, AIF, ATB, ZCF; $2.10: VK3ZII; $2: VK3AWZ, L3201; $1: VK3's AEJ, AWM, G. Homilij, J. H. Smith.

### WESTERN ZONE

Herb 3NN has his 2 mx s.s.b. rig operating and seems to be getting exceptional results on other bands also, as he recently had a QSO with 3ALZ in Melbourne on 432 Mcs. Ray Lankie also heard Herb operating on 80 metres. Ray, a zone s.w.l., reports this from his new listening post at Madang.

Trev. 3ATR may earn a W.A.S. certificate after his 30 minutes of s.s.b., which also included other rare DX QSO's.

A VK6 visitor was welcomed to the zone network when Chas 3IB worked Bob 6KN/M. who would ever try a 80 mx dipole wound around a loaded semi-trailer—just ask Bob 6KN about his "Centre Loaded Semi --- Mobeele."

The pressure of work has caused Bert 3EF to miss a few hook-ups recently, but he was loud and clear again the other night. Bob 3ARM has been plagued with the "wog," but managed a F.B. QSO on 80 mx recently, to be monitored by Allan, his son, using a battery-operated Rx at Geelong.

It's hardly good swimming weather, but I dare say that Tony 5ZAI is well prepared for the summer with his new home-brew pool. I wonder how many backache units were involved?

The lack of power has kept 5YB off the zone network for some months. S.w.l. is his only resort from which source the bulk of these notes has been derived. 73's, de Barry-5 Yogi Bear.

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## QUEENSLAND

### TOWNSVILLE AND DISTRICT

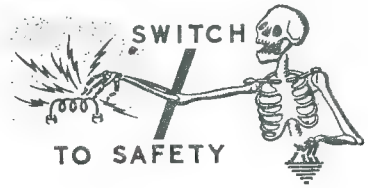
"QTC" for June of the Queensland Branch of the W.I.A. certainly pulled no punches in its monthly editorial. Maybe the punch-line in the third paragraph will certainly make some of the tardy members stop and think. It is hoped that this telling editorial will bear fruit in the increase of membership. It seems a pity that so many are so apathetic, especially at the time when we should be strengthening our membership to fight for our bands.

No southern members have passed through in the past month, at least none have called for an eyeball QSO. Charlie, my main informant being on the highway on Route 1. His antenna gracing the approach to our fair city ensures that there is a welcome for all that pass by.

Very little doing on the Amateur bands and my constant work every day leaves no time for monitoring the various segments of the various frequencies.

Ted 4EJ and Bert 4LB running into a spot of trouble with the home-brew Transceiver; certainly spend much time to ensure that all will perk well when finally put on the air. Ian, a VK3 s.w.l., has passed along the word that he will be visiting various Amateurs in August and September. Hopes to tour the Tablelands and also has Cairns on high priority; apparently Basil 4ZW held out the velvet hand of welcome previously.

No news of the Local Club, will be a shame if it fails to function for lack of support from the Amateurs. 73, Bob 4RW.

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## SOUTH AUSTRALIA

The annual general meeting of the VK5 Division was held in the clubrooms to a standing room only audience of members and visitors, which took the form of a buy and sell night, thus accounting for the overflow in the hall. Nothing much can be written about this type of night, so much to the disappointment of my band of followers in VK4 and VK6, I can only say that Phil 5NN and a ring-in for the night in Warwick 5PS acted as the extracters of the public money, much to everybody's enjoyment, and the meeting closed at 11.15 p.m., with still only standing room available, so need I say any more. I don't know what happened to the caretaker or his Alsatian elephant, but for once, all present made a dignified exit, although keeping one eye peeled for any signs of Jumbo.

Brian 5CA, who usually assists Phil 5NN as auctioneer, did not put in an appearance, unusual if I might say so, and the President, Ross 5KF informed members present that Brian was home in bed with the doctor, and did not clarify the situation any further. My spies are checking up on the situation at the moment, and further details will be given as received!

Noticed Rob 5WA at the meeting, and I was tickled pink to note that he now sports a call sign. Some two years ago when he told me that he planned to sit for a ticket when he retired from G.M.-H., I did not give him a chance, mainly because when one gets up in years it is one thing to say I intend to sit for a ticket, and another to really buckle down and get it. Anyway, he now has his ticket, and is in full sail after contacts. It appears that over in W land there is a General Motors Firebird radio club, and Rob is dead keen to contact the members. I salute you, O.M., and your persistence should act as a tonic to several more of the "retireds," etc., in their attempts for a ticket.

I know it is "Catty," but a well-known book on s.s.b. only received two bids at the buy and sell, and was knocked down at a ridiculous figure. I was tempted to bid myself in an endeavour to help things along, but don't think I could have stood up to the jeers and catcalls that would have followed, plus the fact that it would have been knocked down to me in sheer spite!

Colin 5ZHJ apparently has been kicking up his heels in the fair city of Canberra, judging by the message he brought back to me from Ken 1KM, and all I can say in reply is that raspberries are my favourite vegetable. How could you be so coarse, Ken? Especially when you know how sensitive my feelings are, to say nothing of my purity of thought.

If you should have nothing to do on these cold winter nights, and would be interested in a little parlour game, I suggest that you get out your new call book and look up just where "ZL5" is situated. ZL5 says see CE9, which in turn says see VP8, which in turn says see CE9, which in turn says see VP8, which in turn says CE9—excuse me, this is where I got on.

Joe 5JO apparently back to perfect health once again, so much so that rumour has it that he is tinkering with the thought of painting the house. Not too much ladder climbing, O.M., remember that any Radio Amateur with 12 grandchildren to boast of reserves a place in the hall of fame, and one does not hold a place in the hall of fame by climbing ladders—get it Joe?

On the other end of the scale, Jack 5LR is having a bad trot. Three days after his XYL was hospitalised with a blood infection, Jack was whisked off to the Blackwood hospital for a sojourn with a temperature of 103 or so. How unlucky can one be? XYL in the Adelaide Hospital. Jack in the Blackwood Hospital, and neither the twain can meet. Latest reports state that both are as well as can be expected.

One of my best spies in W4 land, as a matter of fact he is disguised as a statue in the gardens of Georgia Tech., tells me that Bob (ex-5PU, now W4) may possibly return to VK around September. Story goes that it is combination of homesickness, a realisation that he and the XYL are a long way from friends and relatives, plus the fact that Bob has sighted a stork flying around in the district, and the said stork told him on the quiet that he had never been to VK, and would appreciate the trip. Ever ready to oblige, Bob said that he would see just what he could do, and the stork was so gratified, that he offered to bring along a couple of his mates! Bob's reaction to this suggestion quickly

DF-2

# FOSTER DYNAMIC MICROPHONES

*FOR HAND-DESK USE*

**SPECIFICATIONS:**

Output Impedance .... .... .... ... ... 50 ohms or 50K ohms
Effective output level .... —55 db. [0 db. = (one) 1V. Microbar]
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**OMNI-DIRECTIONAL DYNAMIC:**

SIZE: 3" x 2-1/8" x 1".
Cable: 12 ft. of P.V.C.
Switch: on-off.
Desk Stand. Clip folds for hand use.
Colour: WHITE.
Plastic Diaphragm.

Retail Price
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let the stork know that these VK's are somewhat on the coarse side. My report from the Georgia Tech. spy concluded on a somewhat dismal note—it is possible that Bob will settle in VK3—How is that for punishment? My sympathies Bob!

The editorial in June issue of the magazine —A Fable for Amateurs — made interesting reading, and the moral was quite obvious. Comments on the editorial, both on and off the air, gave the impression that there is plenty of room in Amateur Radio for all phases of activity, and that the motto, "Live and let live" still prevailed. In all hobbies and activities there are always the odd one or two who want to convert everyone else to their way of thinking, but eventually they come to their senses, or are ignored to such an extent that they wake up to themselves. Look at me —has anybody been ignored more than me? —don't answer that.

That Pincott 3AFJ is about again. Did you notice the sample of the R.D. Contest receiving log in the magazine? VK6RU is shown as having contacted VK5PS, and horror of horrors, the mode in use was s.s.—no, it is of no use, I cannot bring myself to write it. To add to the injury, in the same issue of the mag., Comps 5EF alludes to me as "It." What with "The Thing"—"The Monster," and now "It," Amateur Radio is coming to a sorry thing.

Remarkable how in all walks of life and in various odd places, one bumps into ex-Radio Amateurs, or those who with a little more encouragement in their early days would have gone on playing with radio. Visiting Jack 5LR in hospital the other day, the face of a chap in the bed opposite seemed very familiar, and upon enquiry he turned out to be the son of a very, very old-timer in Cyril Malpas. This name of course would mean nothing today in Amateur Radio, but the genuine old-timer would certainly remember Cyril, who incidentally is well alive and kicking, although his Amateur activities belong well in the past. Spent quite a time trying to find anybody who remembered his call sign, but so far nothing doing. What about it "Cookie" 5AC??

Bob 5LH—is it Bob?—heard discoursing on an outing chasing the elusive mushroom, apparently without much luck. However, after listening to his mouth-watering description of the barbeque that was part of the hunt, I sadly fear that the mushrooms and their chasing was only an alibi for catering to the inner man.

Max 5GF from his remarks is aiming at 100 watts for his mobile, and going on the same source of information, Les 5NJ is entertaining somewhat similar ideas, although admitting that he might stop at 50. Long time no hear Les. Rumour had it that you were giving it away.

Have had one or two enquiries from over the border as to the whereabouts of Tubby 5NO and I quote from the Journal of the Elizabeth Amateur Radio Club, "INFO." "Club members and friends join in wishing Tubby farewell as he departs for Belgium in the very near future—a founder member of the club and one of the most ardent Amateurs in VK5, he will be in Belgium for about three months before returning to the Northern Territory where he will be station manager for an ELDO tracking station. We can expect to hear from Tubby from the shack of some ON station or other, and no doubt later with his own call of VK8, despite rumours that he has given the game away"—unquote.

It has been said that one can never tell just what is inside a parcel from its wrapper—or that one can never judge a sausage from its skin—and to this must now be added that one can never tell just what hidden fires of determination lie beneath the quiet exterior of the operator of 5WI, Murray 5ZQ. This assertion is prompted by the fact that on 14 Mc. the other Sunday evening, two VE stations were in QSO using "The Thing," and just as they were signing off, who should bob up on their frequency, and on a.m. at that, yes, you heard me, a.m. at that, none other than our intrepid hero, Murray, and calling them with all the assurance in the world. Well, to make a short story longer the first Canadian threw up his hands in unbelief, and then must have passed out, or something, because nothing further was heard from him. However, the remaining VE, probably made of sterner stuff, did come back and give a report, suggesting in a somewhat strained voice that it was getting late and he would like to have a look around the band, and then went QRT. Murray calmly thanked him for his report, and said he would not keep him, and then went back to his project quite pleased with his effort, and to all intents and purposes blissfully unconscious of the upheaval he had caused on the band. What a daredevil, what a villain, keep your eyes and ears on this young man, he will go far, but I am not sure in which direction!

Talking of "The Thing," and nobody wants to less than I, I bumped into Jack 5JS at the supermarket the other morning, and when we had both picked ourselves up, he informed me that he was taking the plunge into the sea of s.s.b. Raising myself to my full height of five foot two inches, I asked him why, hoping that he would not see the tears in my eyes, and he simply said, "if you don't, you don't survive." And that coming from a man who only the other day told me that he would never use "The Thing," because there was always c.w. left. Woe is me.

Nobby 5WK on leave at the moment of writing, and although I have disguised myself and listened on the bands for his s.s.b. signals, so far nothing has been heard of him. Just before he left on his leave I asked him had he seen the paragraph in a certain VK2 publication under the heading of "S.s.b. in the Desert," but he started to go red in the face and stutter, so I decided that discretion was the better part of valour, and left somewhat hurriedly, thus not being able to ask him if he was going away for his leave.

Recently heard Carl 5SS on Shepherds Hill in QSO with Frank 5MZ and as Frank inferred that he had been having a trot around the lawn with the mower, I think I am safe in saying that he is almost back to complete health.

Heard Uncle Tom 5TL talking to Arch 5XK, and when Arch complained of "bugs" in the gear, Tom's suggestion that he had better get a Flicks man in, did not get a very happy reception. Incidentally, Arch had a few complimentary remarks to make about the programmes from the B.B.S., apparently he did not realise that I was earwigging on the frequency.

Ron 5KS, returning from Port Pirie, hobnobbing with his old pals, found that he had accumulated quite a lot of bits and pieces, and his next job is to dispose of them. Buy and sell night, here he comes!

Turned the volume control well up the other night when I heard my favourite banker Keith 5KH say that he was entertaining one of the local cats. However, all was well, the said cat had only adopted the QTH of Keith, apparently it makes no distinction between "The Thing" and a.m.

No doubt about these publicity hunters. No sooner does the publicity die down for Phil's 5NN daughter Judith in the Junior section of "Coles' Question" (she is reliably reported as having more oodle in the bank than the breadwinner of the family—I can vouch for that because the said breadwinner of the family told me!) than up bobs Phil as the sharer of the 1965 Higginbotham (never heard of him) Award with VK6NJ. I rang him up to congratulate him on the honour, although stressing the dubiousness of his subject, and was cut to the quick to have him point out in reply that it was a pity that last year's winner, a modest and noble upright VK5, did not pay more attention to the said dubious subject! How ungrateful can they be. Anyway, as one winner to another, I congratulate both the recipients, and here's hoping that a VK5 figures in the next year's award.

Murray 5ZQ—I told you to keep an eye and ear on this joker—was not amused when after an absence of three weeks' vacation from the 5WI session, he ran into strife on his comeback. Apparently his mike cable became temperamental, and resisted all of the blandishment of Murray. Dame rumour has it that he showed an unexpected grasp of the language usually associated with a sailor's parrot—but this I would have to hear—not that I would understand a word, of course. One thing I am proud of—my purity of mind!

Was talking to a friend of mine today who has just commenced operation on all bands using "The Thing"—oh yes, believe it or not, I still have some friends despite their use of that mode of operation—and when I asked him what he thought of it, he came all over enthusiastic, and how. His only bit of a grizzle was that his contacts always seemed to degenerate into a round table QSO, with some wanted contacts and some not wanted. He told me that he has solved the problem of not being rude, by calling CQ and adding "for a short contact," thus allowing him to back out with dignity from the gasworks. His name will be withheld to protect the guilty!

W.I.C.E.N. in VK5 moves on from success to success, due no doubt to the drive and energy of its leader, "Simon Legree" Taylor 5TY—Geoff. to you. A foxhunt was held the other Friday night, which proved a definite success, and the place-getters were—5ZMW, 5KX—and 5ZBE. The enthusiasm of the members is at the moment reaching a record high, and as an example, Graham 5ZAD has converted his motor-bike for W.I.C.E.N. with a Pye Reporter mounted on the bike, a small earpiece built into his crash helmet and a mike on the helmet visor. He has push-to-talk on the handle bars, and his polarisation varies from vertical at the stop signs, to horizontal when moving. Once he gets past 60 m.p.h. it remains constant at vertihori—or something. Anyway, how enthusiastic can one get—You tell me!

Nothing has been heard of the receiver that was lifted from the QTH of George 5CV. Latest information is that he is leaving it to the gendarmes and the insurance company, as it is no good having suspicions without any proof.

I learnt at an early age that the best form of defence is attack—so here goes. Geoff. 5TY rang me at home the other night, and when informed by my better nine-tenths that I had retired early, but would be getting up about 10 o'clock to have a look at the VK3 football on t.v., chortled loud and long, and said that Pincott 3AFJ would certainly hear about this. Just in case he carries out his threat, I wish to publicly state that my XYL's modesty prevented her telling Geoff. the real reason for my intention to rise at 10 o'clock. The real reason was because I expected a man to call on me to have a discussion about a canine —so there.

73 de 5PS—PanSy to you.

— . . . —

## OBITUARY

### BOB MUIR, VK6RW

It is with much regret that VK6 advise of the passing of VK6RW, Bob Muir. For very many years Bob was in business in the watch-making trade and was a staunch country Ham. A number of years ago he moved to the city and carried on business in North Perth. An enthusiast, he had a portable at his shop and worked mostly on 8C. Of late years his health gradually gave way, and selling out his business about Christmas time, he went into hospital and died on 3rd June.

The Institute extend to his wife and family their condolences. Bob was a very likeable fellow and will be sadly missed.

### RODNEY BURGE, VK6ZBF

VK6 also regret to announce the death of VK6ZBF, Rodney Burge. Rodney was a P.M.G. technician and was actively engaged in extending to the country the broadcasting interests of the P.M.G. Department. We did not see much of Rodney as he was mostly out of town.

The Institute also extends its sympathy to his wife and family.

### PAUL HARDWICK ANDREWS

Paul died suddenly on 23rd June, 1966, age 68. He leaves a wife, two sons and two daughters. Originally joined the Public Service at Wauchope, N.S.W., in 1915, saw overseas service in World War I, and served with Beam Wireless during 1920. In 1927 he was appointed as Radio Postmaster in Cammoweal, Qld., where he handled communications prior to the inauguration of the Flying Doctor Service. He became Assistant Radio Inspector in 1931 and eventually rose to Superintendent Radio, Queensland, in 1957, holding this position until his retirement in 1962.

Although Paul never bothered to take out a call, he was very much one of the Amateur fraternity and will be remembered by many O.T.'s for his wide knowledge and wit and lectures at meetings, etc.

A self-made man who rose to the top.

## WESTERN AUSTRALIA

Greetings, fellow salt miners, from the frigid wastes of Western Australia. I hope that by the time you read these few lines the winter chills and ills will be preparing to give way to spring.

Once again it is my sad duty to advise of the passing of two more of our number, namely Bob Muir and Brian Burge. Our sincere sympathy to their respective families.

My award of the month goes to Mac 6MM for the most eye-catching advertisement to appear in the local Bulletin for some time. Most of us did a double take when we read of his ingenious offer of a "60-ft. tower with seven-room shack attached"—well, I ask you.

Our congratulations must also go to Mac for his achievement in being selected to receive a Rotary Award for Technical Training. Mac was one of the lucky twenty-five candidates from a total of 165 candidates from all over the world. The award will enable him to attend the Milwaukee School of Engineering in the United States for one year. Sounds like a wonderful opportunity to acquire some additional knowledge and a bit of the latest Ham gear into the bargain. Safe travelling, Mac.

Another new voice, another new piece of gear, this time it's Carl 6XW, and the aforementioned piece of gear is, I understand, one of those long-necked birds. No, no, not an ostrich, a Swan. I told you before, those boys down at Narrogin were busy bees, not only on the d.c. bands, but the v.h.f. as well. A couple of new 52 Mc. base stations were recently installed.

All this talk of birds and bees, crumbs, next thing I know I'll be writing a "lonely hearts' " column.

Some of you may recall that man of many call signs, "Big John," VP7DR/MM on the vessel "Sea Search," well, he recently returned to this state for some five or six weeks and journeyed to Carnarvon. Such is the fatal charm of this Wildflower State.

A report to hand from one of my spies, who must remain unnamed for fear of reprisals in the form of extra homework, informs me that the C.B.C. Radio Club has resumed normal (?) operations, after their Northern Safari and are now settling down to a profound study of the Triode valve. Keen interest is also being shown by the newly-formed group in the neighbouring girls' school.

Laurie 6ZEA also tells me that the group at Wesley College is also progressing favourably. It is also within the realms of possibiilty. that yet another Youth Radio Club may be formed in the near future, this time as far afield as Carmel. Rod 6SE is very interested in this aspect of our hobby. Good luck, O.M., hope it turns out some more call signs very soon.

Despite the strenuous efforts of a number of interested Hams it seems that W.I.C.E.N. in VK6 is slowly but surely grinding to a halt. The Sunday morning call-back has been discontinued and our sincere thanks must go to Brian 6VW for persisting so long against such long odds. Looking for the silver lining, we must consider ourselves rather lucky that natural disasters are not so prevalent in this state as they are elsewhere. Should disaster threaten I feel certain that Hams in this state will, if permitted, acquit themselves just as creditably as they have in the past.

Is this a sign of things to come, or just the impolite brush-off? Heard recently on the band: "——sorry, O.M., but my receiver does not handle a.m." Sounds like a serious malfunction of the half lattice geranium whoosis to me.

One fellow who successfully combines business with pleasure is Eric 6VM, who has very neatly contrived to fit some mobile gear into his waggon, and waggles a whip on the rear end also. When circumstances (jobs, that is) permit he joins in the regular 1 o'clock sked on 40 metres each Wednesday. As a bonus, he has also influenced his offsider, Hank, to become interested in Ham radio. It was good to see them both at a recent meeting, too.

Heartiest congratulations to those successful candidates at the last A.O.C.P. exam.—good work. To those who were just a little unlucky, don't go cold on the project ,imagining that you are a Robinson Crusoe. Many have been in a similar position and there will be many more in the future. Keep on slogging, the end result will be well worth while, believe me.

Saw Len 6LS at the recent Australian Post Office electronics exhibition, put the awed public in possession of some of the secrets of telecommunication. Couldn't get near enough to see his video-taped interview, but his modulation was loud and clear. See you in the R.D. Len, I hope.

The Christmas Island boys were not favoured by over-good conditions during their recent week-end Ham Fest, but operator Allan certainly got into a beaut. gaggle, sorry, I mean round-table on the Sunday evening on 80 metres. Apart from the six or seven VK6's, a couple of ZL's managed to get into the act and Master of Ceremonies Bob 6BE was kept pretty busy.

I understand that that small cloud of dust on the horizon near Wubin was caused when Col 6CJ forcibly ejected a family of red-back spiders and sundry pests in order to fire up his rig on 40. Just getting ready for the you-know-what in August? By the way, where is brother Ray 6WU? We've missed you from the Schools' Broadcast (Wednesday sked to the uninitiated) O.M.

Quite a nunmber of new calls appearing on the 52 Mc. f.m. nets, so my spies inform me. This facet of Ham activities is one which has received quite a lot of adverse criticism from quarters, its opponents claiming that going on the breeze with a converted two-way is where Ham radio ends with many fellows. Another school of thought is that at least they are on the air and not just inactively holding down a call sign by simply paying a quid. What do you think?

By the time you read these notes, Lionel 6LM should have commenced his second issue of long service leave. If previous holidays are any guide, listen for him operating portable as well as from his home QTH.

Well, happy listening customers, see you further down the log. 73, Ross VK6DA.


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OHM: 0 to 10k, 0 to 100k, 0 to 1 mg., 0 to 100 mg. (min. 2 ohm and max. 100 mg. ohm).
DB.: — 20 to plus 16 to plus 62 db.
Batteries: 1.5v. (UM-2) x 1 and 22.5v. (BL-015) x 1.
Size: 6⅝ in. x 5⅛ in. x 3⅜ in.
Weight: 3.2 lb.

**Price: $29.50 plus S.T. 12½%**

## MODEL 370-ES

● Specially designed A.C. current ranges measure up to 10 amperes. ● Germanium diode rectifiers. ● Wide-range and versatile instrument for all-round service and laboratory use. ● Diode protected.

Measurement Ranges:

D.C. V.: 0.5, 2.5, 10, 50, 250, 500, 1000, 5000v (20k ohm/v.).
A.C. V.: 2.5, 10, 50, 250, 1000v. (4k ohm/v.).
D.C. A.: 50 μA.; 1, 10, 50, 250 mA.; 1, 10 a.
A.C. A.: 250 mA.; 1, 10 a.
OHM RX1, RX100, RX1000, RX10000 (min. 1 ohm and max. 50 mg. ohm).
DB. — 20 to plus 10 db. plus 10 to plus 35 to plus 63 db.
Batteries: 1.5v. (UM-2) x 2 and 22.5v. (BL-015) x 1.
Size: 7 in. x 5¼ in. x 3¼ in.
Weight: 3.1 lb.

**Price: $34.50 plus S.T. 12½%**

## MODEL 380-C

● High-grade circuit tester of 30-microampere sensitivity. ● Ruggedly constructed to withstand the wear and tear of heavy-duty service. ● Large mirrored scale dial for accurate reading.

Measurement Ranges:

D.C. V.: 0.3, 3, 12, 60, 300v. (33.3k ohm/v.), 1200, 3000 v. (16.6k ohm/v.).
A.C. V.: 3, 12, 30, 120, 300, 1200v. (5k ohm/v.).
D.C. A.: 30 μA.; 3, 30 300 mA.
OHM X1, X10, X100, X1000 (min. 0.5 ohm and max. 20 mg. ohm).
D.B.: — 20 to plus 10 to plus 23 db. up to plus 63 db.
*μF. (C): 0.001 to 100 μF.
*H (L): 0.1 to 2000H.
Batteries: 1.5v. (UM-3) x 4 and 1.5v (UM-2) x 1.
Size: 7¼ in. x 5 in. x 4 in.
Weight: 2.5 lb.
* Use external power.

**Price: $23.50 plus S.T. 12½%**

## MODEL U-50

● Handy meter of 35-microampere sensitivity.

Measurement Ranges:

D.C. V.: 0.1, 0.5, 5, 50, 250, 1000v. (20k ohm/v.).
A.C. V.: 2.5, 10, 50, 250, 1000v. (8k ohm/v.).
D.C. A.: 50 μA.; 0.5, 5, 50, 250 mA.
OHM: RX1, RX10, RX100, RX1k (min. 1 ohm and max. 5 mg. ohm).
DB.: — 20 to plus 62 db.
*μF. (C): 100 pF. to 0.2 μF.
*Megohm: 1 to 500 mg. ohm.
Batteries: 1.5 v. (UM-3) x 2.
Size: 5⅛ in. x 3¼ in. x 1½ in.
Weight: 13.3 oz.
* Use external power.

**Price: $13.50 plus S.T. 12½%**

## MODEL 370-X

● Multi-purpose tester covering practically all measuring requirements. ● Two current ranges afford the meter a dual function as a circuit tester and A.C.-D.C. ammeter.

Measurement Ranges:

D.C. V.: 3, 6, 12, 120, 300, 1200, 3000v. (4k ohm/v.).
A.C. V.: 6, 12, 120, 300, 1200, 3000v. (4k ohm/v.).
D.C. A.: 0.3, 3, 30 300 mA.; 3, 12 a.
A.C. A.: 3, 12 a.
OHM: R, 10R, 100R, 1000R (min. 2 ohm and max. 10 mg. ohm).
DB.: — 10 to plus 17 db., 0 to plus 23 to plus 63 db.
Batteries: 1.5v. (UM-2) x 2 and 22.5v. (BL-015) x 1.
Size: 6⅝ in. x 5⅛ in. x 3⅝ in.
Weight: 2.6 lb.

**Price: $20.50 plus S.T. 12½%**

## MODEL P-1B

● Rugged and accurate midget tester. ● Miniatured to the limit of practical use. ● Useful to check all sorts of electrical home appliances.

Measurement Ranges:

D.C. V.: 10, 50, 250, 1000v. (1k ohm/v.).
A.C. V.: 10, 50, 250, 1000v. (1k ohm/v.).
D.C. A.: 100 mA.
OHM: 0.1, 100k ohm (midscale — 25k ohm).
DB.: — 10 to plus 22 db. plus 20 to plus 36 db.
*μF & H.: 0.001 to 0.1 μF. and 10 to 1000H.
Battery: 1.5v. (UM-3) x 1.
Size: 4⅛ in. x 2⅞ in. x 1½ in.
Weight: 9 oz.
* Use external power.

**Price: $6.25 plus S.T. 12½%**

## MODEL F-7TR

● The unique range selector is really epoch-making, a red ball appearing in the slot on a clear acrylic dial. ● Half in size compared with conventional testers. ● The meter self-checks the internal batteries.

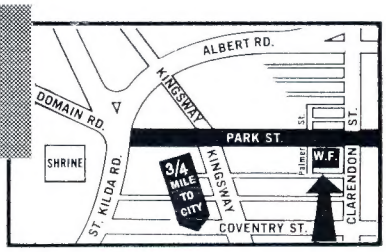
Measurement Ranges:

D.C. V.: 0.25, 2.5, 10, 50, 250, 1000v. (20k ohm/v.).
A.C. V.: 2.5, 10, 50, 250, 1000v. (8k ohm/v.).
D.C. A.: 50 μA.; 0.5, 5, 50, 250 mA.
OHM: RX1, RX10 RX100, 50M (min. 1 ohm and max. 50 mg. ohm).
DB.: — 10 to plus 36 db.
L.I.: 20, 2, 0.2 mA.
Batteries: 1.5v. (UM-3) x 1 and 22.5v. (BL-015) x 1.
Size: 3⅝ in. x 3½ in. x 1¾ in.
Weight: 14.4 oz.

**Price: $22.50 plus S.T. 12½%**

# WARBURTON FRANKI

**220 PARK ST. SOUTH MELB., VIC.** PHONE 30 lines **69-0151**

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